Supporting Information

Crystalline Matrix Activated Spin-Forbidden Transitions of Engineered Organic Crystals

Heming Zhang,[1] Lianbao Ke,[1] Yufang Nie,[1] Zhengqian Tu,[1] Jiaxuan Wang,[1] Semion K. Saikin,[3] Hai Bi,[1]* Yue Wang [2]

1. Jihua Laboratory, Huandaonan road #28, Nanhai district, Foshan, Guangdong Province, China;

2. Jilin University, Qianjin street #2699, Changchun, Jilin Province, China.

3. Kebotix, Inc., 501 Massachusetts Avenue, Cambridge, MA 02139, the United States of America.

Experimental methods:

(1) Fabrication of engineered crystals: double-film annealing method

Alq_3 was purchased from Aladdin corporation (Shanghai, China). Gaq_3 was purchased from Sigma-Aldrich. $Al(qBr_2)_3$ was synthesized according to the previously reported method[1]. In a round bottle $AlCl_3{\cdot}6H_2O$ (266 mg, 1.1 mmol) and 5,7-dibromo-8-hydroxyquinoline (1 g, 3.3 mmol) was added. 30 mL Methanol was then slowly added and the mixture was allowed to react overnight at room temperature. Afterwards, the mixture was neutralized by 1 mol L^{-1} aqueous solution of NaOH and the precipitated greenish-yellow solid was filtered, washed with H_2O, CH_3OH and Et_2O and dried in vacuum. Then evaporation was used for purification.

$Ir(ppy)_3$ was firstly evaporated on a piece of clear square quartz. Then Alq_3 ($Al(qBr_2)_3$ or Gaq_3) was sequentially evaporated on the layer of $Ir(ppy)_3$. The thickness of $Ir(ppy)_3$ was 120 nm and the thickness of Alq_3 ($Al(qBr_2)_3$ or Gaq_3) was 30 nm. The annealing for I-Alq_3 was at 370 °C for 8 min. For I-$Al(qBr_2)_3$ the temperature was 360 °C for 8 min. For I-Gaq_3 the temperature was 380 °C for 5 min.

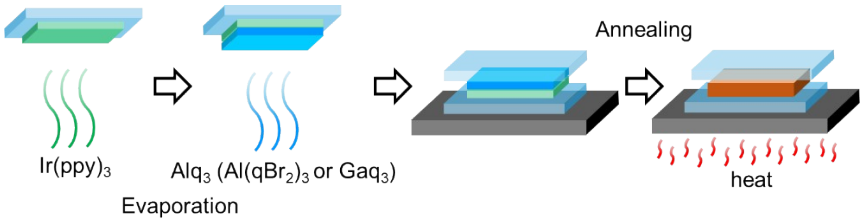

Figure S1. The process to fabricate engineered crystals: double film annealing method.

(2) Observation and spectrum measurement

The observation of morphology was performed using an Olympus fluorescence microscope with UV light source and a Thermo Scientific Prisma E SEM. The photoluminescence spectrums were measured by a Renishaw microscope. The excitation light sources are 405 nm, 532 nm, and 632.8 nm laser. The UV-vis spectrums were measured by a Hitachi UV-vis spectrophotometer using sphere integrating method. The photoluminescence lifetimes of the long wavelength phosphorescence were measured by an Edinburgh spectrophotometer using a μs pulse flash lamp. XRD diffraction spectra were measured by a Bruker D8 Advance instrument.

Computational details:

Geometry optimizations and single point computations in ground state were performed by DFT method. A hybrid functional B3LYP[2-4] was applied with D3 correction[5], and the basis set was def2-SVP[6-7] and the auxiliary basis is def2/J. The spin-orbital coupling (SOC) matrix elements were calculated by TDA using DKH method. And the basis set was DKH-def2-SVP[8-9] a special version for DKH method (the auxiliary basis is SARC/J[8-9]). To well describe the SOC matrix elements, no effective core potential for Ir was adopted. All the methods above were provided by ORCA 5.0.1[10-11] and the grid size was set as "DEFGRID3"[12].

The spin-allowed transition dipole moments (TDMs) were computed by Gaussian 16A by TDDFT based on the converged geometries obtained by the computations from ORCA. D3 correction was adopted. The calculation of transition dipole moments between excited states was performed by Multiwfn 3.7[13-17] based on the computational results from Gaussian 16A. Based on the computations of SOC and TDM, the spin-forbidden TDMs (TDM_{SF}s) can be calculated, and 30 intermediate states were calculated.

At the current stage of computational chemistry it is almost impossible to build a model for a crystalline lattice confinement matrix starting from first principles, and a set of simplifications is necessary. The purpose of these simplifications is to conserve the most important and representative structure to make the computation possible. The lattice confinement matrix contains a part of periodic structure of the host and a part of non- periodic structure of the guest and the host molecules surrounding it. The non-periodic structure is more important than the periodic structure of the host because the spin-forbidden excitation is activated by a combined effect of both the guest and host. Within the non-periodic structure, photophysical behavior occurring in a two-molecular system is more possible and feasible than in a multi-molecular system. Therefore, the computational model was finally selected by a guest and a host as a dimer system. The conformer searching of the two-molecular system was performed by Crest module in XTB program[18-22]. The conformer searching

depends on the initial geometry sent into the program. In this work, the initial geometries of a dimer were created by joining the two molecules in the direction of $\pm x$, $\pm y$, and $\pm z$ (shown in Figure S1). To avoid calculating conformers of extreme close geometries, e.g., the only difference between two conformers is the rotation of a methyl group, the minimum energy difference between two conformers was set 0.5 kcal mol^{-1}. To cover different possible conformers in lattice confinements, as many as five conformers of each of the engineered crystals as shown in Figure S5. And the excitation spectra of all the five conformers were calculated and overlapped to create an excitation spectrum for each engineered crystal as shown in Figure 4. Then the spectra line was broadened using a FHWM of 500 cm^{-1}. Both $Ir(ppy)_3$ and Alq_3 ($Al(qBr_2)_3$ or Gaq_3) themself have different conformers. According to the previous references[23-25] and our experimental observation, *fac*-$Ir(ppy)_3$ and *mer*-Alq_3 were selected.

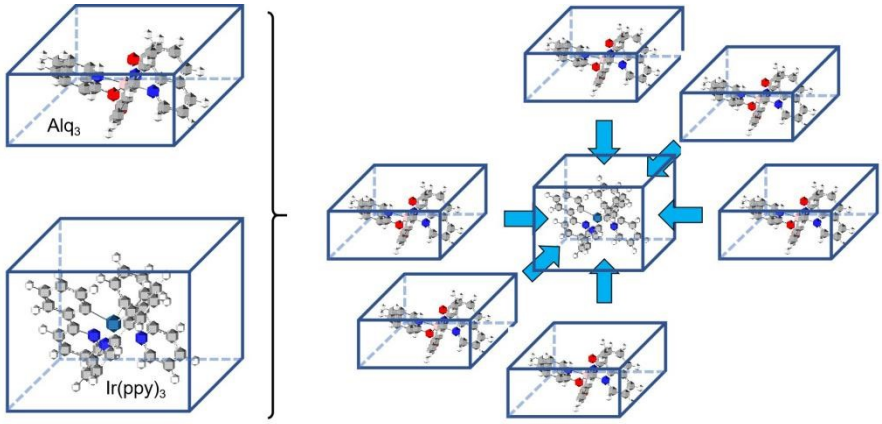

Figure S2. The generation of initial geometries for conformer searching. The initial geometries of two-molecule-systems were created by joining the two molecules in the direction of $\pm x$, $\pm y$, and $\pm z$.

Supplementary data:

Table S1. The luminescence lifetimes and the proportions at different temperature of the engineered crystals excited at 632.8 nm.

Ex@633	Temprature /K	Lifetimes /μs	χ^2
I-Alq_3	77	11.48 48.38	1.10
	127	12.20 48.35	1.08
	177	13.52 57.68	1.01
	298	21.17 119.79	1.10
	350	25.00 173.31	1.17
	400	30.14 203.05	1.12
I-$Al(qBr_2)_3$	77	1.95 11.13	1.00
	127	7.00 18.47	1.02
	177	12.25 19.53	0.99
	298	4.54 44.99	1.01
	350	5.15 51.67	1.01
	400	7.75 32.63	1.19

		116.99	
I-Gaq$_3$	77	4.65 13.44	1.01
	127	5.90 14.65	1.02
	177	5.94 16.45	1.10
	298	7.32 61.05	1.10
	350	6.70 149.69	1.19
	400	5.34 155.75	1.18

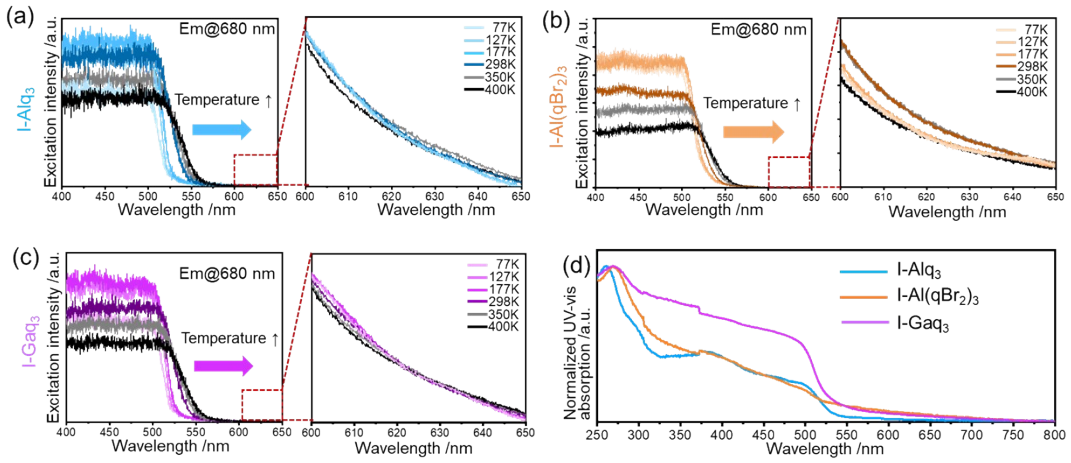

Figure S3. The excitation spectra with an emission at 680 nm under different temperatures and the UV-vis absorption spectrum (normalized) under room temperature of the engineered crystals: (a) excitation spectrum of I-Alq$_3$, (b) excitation spectrum of I-Al(qBr$_2$)$_3$, (c) excitation spectrum of I-Gaq$_3$, (d) UV-vis spectrum.

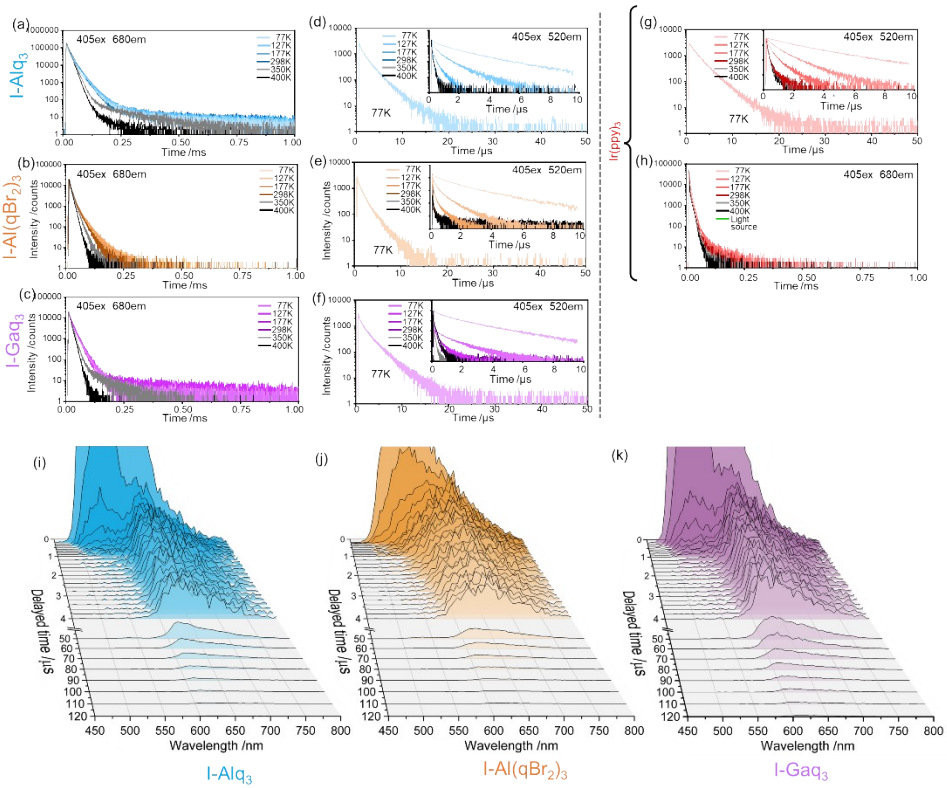

Figure S4. The lifetime measurements at 680 nm and 520 nm excited at 405 nm under different temperatures, (a-c) lifetimes of engineered crystals of I-Alq_3, I-$Al(qBr_2)_3$, and I-Gaq_3 at 680 nm (d-f) lifetimes of I-Alq_3, I-$Al(qBr_2)_3$, and I-Gaq_3 at 520 nm, (g-h) lifetimes of the crystal of $Ir(ppy)_3$ at 520 nm and 680 nm, (i-k) the time-delayed emission spectrum of the engineered crystals.

When excited at 405 nm (**Figure S4(a-c)**), the lifetimes of the engineered crystals of I-Alq_3, I-$Al(qBr_2)_3$, and I-Gaq_3 were all long and they were measured at the range of 1 ms. When the temperature was lowered, there was a trend that these lifetimes were getting longer similar with the trend of $Ir(ppy)_3$. Besides, the lifetimes at 520 nm (**Figure S4(d-f)**) were becoming longer when the temperature was lowered same with the lifetime measurements of $Ir(ppy)_3$. These were typical radiative transition behaviors at lower temperature. The time-delayed spectra of the engineered crystals measured at room temperature were shown in **Figure S4(i-k)**. The emission at the range from 500 nm to 550nm almost disappeared with in 4 μs and the emission beyond 600 nm lasted for over 100 μs.

In the engineered crystals, both the triplet states of the supermolecule system of guest (e.g. Alq_3) and the host ($Ir(ppy)_3$) and the host itself can phosphoresce and both of the phosphorescence spectra can cover 680 nm. As shown in Figure S4, we measured the emission

at 680 nm for both the engineered crystals (**Figure 4(a-c)**) and the $Ir(ppy)_3$ (**Figure 4(h)**). They show similar behaviors (the lifetimes become longer) when the temperature is decreased. As we know both the absorptions of the supermolecule system and the $Ir(ppy)_3$ cover 405 nm. Thus, the emission excited at 405 nm is a mixture of these two species and it seems more affected by the $Ir(ppy)_3$. However, for the excitation at 632.8 nm, this wavelength already exceed the absorption range of $Ir(ppy)_3$. Therefore, the species that excited by 632.8 nm is only the supermolecule. The emission at 680 nm excited at 632.8 nm is purely contributed by the supermolecule.

Different from the emission of the single components at around 520 nm as shown in **Figure S4(d-h)**, the emission of the engineered crystals at 680 nm shows dual lifetimes (as shown in **Figure S3(a-c)**) instead of one single exponential. The dual lifetimes may reflect more complicated photophysical processes and exciton transfers between the two components of the engineered crystals. The quenching of triplet excitons through the non-radiative decay of Alq_3 (for instance) can be a reason for this dual lifetime. Triplet-triplet annihilation may also cause the quenching of triplet excitons resulting in dual lifetime, However, corresponding experimental phenomenon was not found.

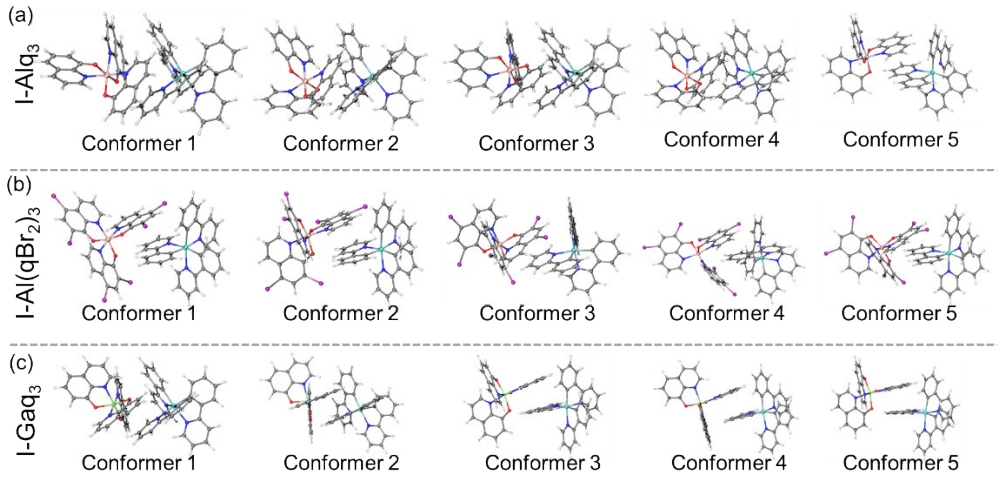

Figure S5. The geometries of the searched conformers for each engineered crystal (the energy order is Conformer 1 < Conformer 2 < Conformer 3 < Conformer 4 < Conformer 5).

In **Figure 4(a-c)** the excitations of $S_0 \rightarrow T_1$ at the longest wavelength were contributed by Conformer 3 of I-Alq_3, Conformer 1 of I-$Al(qBr_2)_3$, and Conformer 1of I-Gaq_3. All the coordinates of these conformers are listed at the end this file.

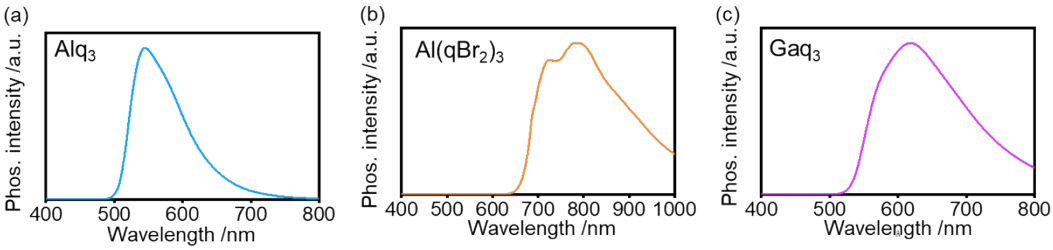

Figure S6. The phosphorescence spectra of Alq_3, $Al(qBr_2)_3$, and Gaq_3.

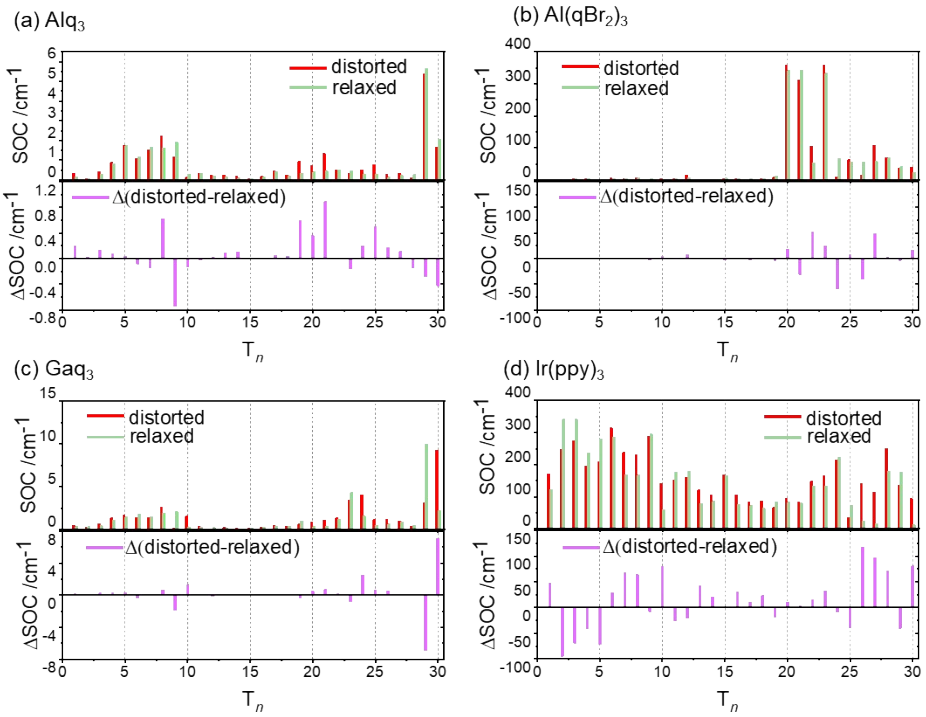

Figure S7. The SOCs of the distorted and relaxed geometries.

The improvements of SOCs via distortion of Alq_3 and $Irppy_3$ were more obvious than $Al(qBr_2)_3$ and Gaq_3. In this case the distorted geometries were isolated from the supermolecules shown in Figure 4.

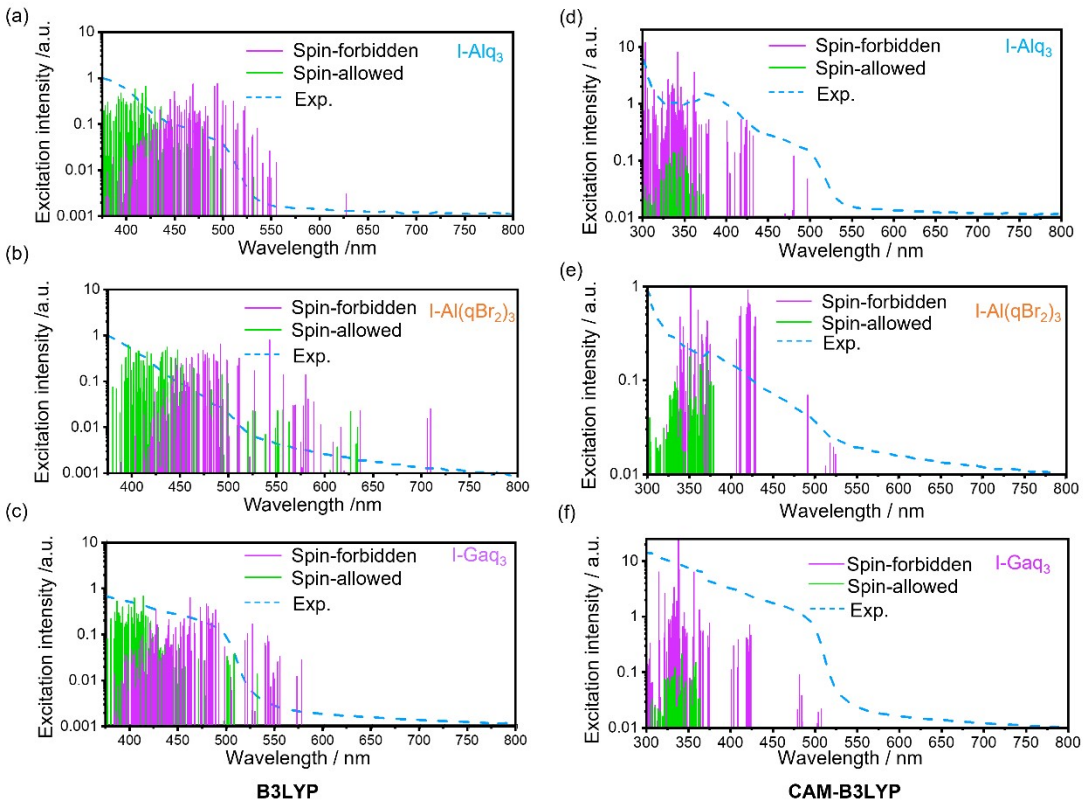

Figure S8. The absorption spectra calculated at B3LYP def2-SVP and CAM-B3LYP/def2-SVP level.

B3LYP functional, used in our studies, is widely accepted for computing molecular properties. However, it might underestimate intermolecular coupling. To check the latter assumption, we computed the spectra of the dimers using CAM-B3LYP, which accounts for long-range corrections. Figure S8 compares the absorption spectra computed with B3LYP and CAM-B3LYP. Both spectra show a similar pattern with long-wavelength triplet states. This is consistent with our analysis of NTOs showing that intermolecular charge transfer does not play a sufficient role between the initial and final states in the excitation mechanism. Still, the spectra computed with CAM-B3LYP experience a systematic blue shift of the singlet band as compared to experiments and need to be calibrated.

Table S2. The TDMs of $Ir(ppy)_3$ calculated at the level of B3LYP/def2-SVP.

State	μ_X/a.u.	μ_Y/a.u.	μ_Z/a.u.	u/debye
1	-0.01009	0.03685	0.27894	0.715698
2	0.14969	-0.06882	0.01435	0.420392
3	-0.06827	-0.14787	0.01861	0.416686
4	0.51718	0.22905	-0.00472	1.437905

5	0.2284	-0.51273	0.08068	1.441496
6	-0.0188	0.01704	0.17334	0.445322
7	-0.0024	0.0186	0.14463	0.370731
8	-0.43064	0.79428	-0.12972	2.320277
9	-0.80479	-0.43179	0.02431	2.322448
10	0.16208	-0.21446	0.03851	0.690283
11	0.2177	0.16048	-0.0102	0.687986
12	0.0368	-0.10905	-0.7364	1.894651
13	-0.04012	0.80067	-0.11901	2.060197
14	-0.80912	-0.04204	-0.03294	2.061263
15	-0.00656	0.02657	0.07962	0.214042
16	0.27299	-0.32869	0.05675	1.095658
17	0.33645	0.27619	-0.02118	1.107828
18	-0.02492	0.06944	0.5305	1.361525
19	0.0583	0.01694	-0.00073	0.154415
20	-0.01709	0.05704	-0.00943	0.153154
21	0.004	-0.00216	-0.02529	0.065305
22	0.00671	-0.01931	-0.10806	0.279504
23	-0.48644	-0.1668	0.00151	1.307191
24	0.1621	-0.48132	0.07521	1.305113
25	-0.44923	-0.05576	-0.01964	1.151781
26	-0.05618	0.44441	-0.06891	1.15209
27	-0.06628	0.19327	1.37275	3.527954
28	-0.00072	0.0286	0.2361	0.604547
29	0.13715	-0.46572	0.06675	1.245736
30	-0.46869	-0.14123	0.0019	1.244334

Table S3. The SOCs of $Ir(ppy)_3$ calculated at the level of B3LYP/def2-SVP.

Roots		<Tn|HSO|Sn> elements (Rm, Im) /cm^{-1}						SOC/cm^{-1}
T_n	S_n	Ms=0	Ms=0	Ms=1	Ms=-1	Ms=1	Ms=1	
1	0	0.00	-211.84	26.94	8.77	26.94	-8.77	124.4743
1	1	0.00	1.22	3.83	0.79	3.83	-0.79	3.2698
1	2	0.00	30.52	117.93	109.49	117.93	-109.49	132.5677
1	3	0.00	12.92	110.44	-122.30	110.44	122.30	134.7535
1	4	0.00	-139.06	-571.35	-385.89	-571.35	385.89	568.6362
1	5	0.00	-41.54	-379.36	579.08	-379.36	-579.08	565.7505
1	6	0.00	-174.38	21.56	19.30	21.56	-19.30	103.4135
1	7	0.00	-104.38	11.78	6.52	11.78	-6.52	61.2583
1	8	0.00	14.44	154.37	-236.73	154.37	236.73	230.9047

1	9	0.00	53.23	233.94	141.38	233.94	-141.38	225.2894
1	10	0.00	-3.40	-35.49	49.94	-35.49	-49.94	50.0621
1	11	0.00	-11.45	-48.28	-34.34	-48.28	34.34	48.8245
1	12	0.00	-132.23	15.85	7.67	15.85	-7.67	77.6850
1	13	0.00	-1.52	17.74	-62.09	17.74	62.09	52.7322
1	14	0.00	12.55	61.86	15.51	61.86	-15.51	52.5736
1	15	0.00	-23.66	2.23	0.06	2.23	-0.06	13.7810
1	16	0.00	-0.92	-9.59	27.25	-9.59	-27.25	23.5931
1	17	0.00	-5.63	-26.53	-8.95	-26.53	8.95	23.0910
1	18	0.00	-12.94	-0.09	-0.43	-0.09	0.43	7.4795
1	19	0.00	-22.41	-126.91	47.65	-126.91	-47.65	111.4384
1	20	0.00	-16.59	-47.62	-126.89	-47.62	126.89	111.0746
1	21	0.00	-59.21	7.56	2.67	7.56	-2.67	34.8061
1	22	0.00	-35.98	2.51	1.68	2.51	-1.68	20.9189
1	23	0.00	-14.69	-49.28	-77.09	-49.28	77.09	75.1855
1	24	0.00	12.24	75.50	-51.80	75.50	51.80	75.0928
1	25	0.00	6.78	25.75	30.52	25.75	-30.52	32.8382
1	26	0.00	4.31	30.01	-27.43	30.01	27.43	33.2896
1	27	0.00	-3.94	1.51	0.37	1.51	-0.37	2.6050
1	28	0.00	-19.20	-0.74	2.23	-0.74	-2.23	11.2499
1	29	0.00	19.67	72.00	80.48	72.00	-80.48	88.8988
1	30	0.00	11.53	81.86	-72.57	81.86	72.57	89.5691
2	0	0.00	73.69	394.59	-107.82	394.59	107.82	336.6913
2	1	0.00	32.48	205.04	-134.37	205.04	134.37	201.0376
2	2	0.00	34.05	-141.33	-110.57	-141.33	110.57	147.8278
2	3	0.00	-16.38	109.07	-129.86	109.07	129.86	138.7901
2	4	0.00	203.81	103.46	-166.62	103.46	166.62	198.7217
2	5	0.00	-151.18	196.43	117.02	196.43	-117.02	206.0843
2	6	0.00	-1.64	-161.92	508.23	-161.92	-508.23	435.5205
2	7	0.00	65.79	281.95	108.78	281.95	-108.78	249.6572
2	8	0.00	-69.75	413.15	227.84	413.15	-227.84	387.3298
2	9	0.00	-124.36	230.71	-399.80	230.71	399.80	383.6664
2	10	0.00	-12.10	-40.82	16.19	-40.82	-16.19	36.5294
2	11	0.00	-15.88	16.96	42.22	16.96	-42.22	38.2645
2	12	0.00	68.26	313.85	63.58	313.85	-63.58	264.4163
2	13	0.00	-28.31	43.97	45.33	43.97	-45.33	54.0919
2	14	0.00	-10.74	44.36	-38.70	44.36	38.70	48.4642

2	15	0.00	3.26	12.30	7.67	12.30	-7.67	11.9842
2	16	0.00	-18.31	-24.90	0.62	-24.90	-0.62	22.9205
2	17	0.00	-9.15	0.39	28.34	0.39	-28.34	23.7370
2	18	0.00	-27.54	-138.82	-4.87	-138.82	4.87	114.5249
2	19	0.00	20.91	-7.81	-45.94	-7.81	45.94	39.9174
2	20	0.00	50.54	-50.12	7.53	-50.12	-7.53	50.6350
2	21	0.00	22.52	98.94	32.75	98.94	-32.75	86.0824
2	22	0.00	-3.21	-55.30	117.84	-55.30	-117.84	106.2999
2	23	0.00	23.90	101.01	-23.34	101.01	23.34	85.7647
2	24	0.00	-8.96	-23.61	-101.06	-23.61	101.06	84.8948
2	25	0.00	-11.71	-27.83	-9.51	-27.83	9.51	24.9468
2	26	0.00	-7.24	10.49	-27.63	10.49	27.63	24.4903
2	27	0.00	10.00	50.83	-1.03	50.83	1.03	41.9106
2	28	0.00	-31.60	-147.32	-25.36	-147.32	25.36	123.4115
2	29	0.00	-23.26	56.39	-47.27	56.39	47.27	61.5619
2	30	0.00	26.36	42.59	52.14	42.59	-52.14	57.0375
3	0	0.00	-48.05	-104.71	-397.68	-104.71	397.68	336.9154
3	1	0.00	-38.90	-131.25	-207.56	-131.25	207.56	201.7661
3	2	0.00	42.26	106.86	-130.96	106.86	130.96	140.1488
3	3	0.00	100.36	126.68	103.78	126.68	-103.78	145.7262
3	4	0.00	235.95	159.40	114.14	159.40	-114.14	210.1944
3	5	0.00	177.66	-140.70	171.56	-140.70	-171.56	208.1840
3	6	0.00	103.00	497.58	157.44	497.58	-157.44	430.2540
3	7	0.00	3.00	111.50	-291.44	111.50	291.44	254.7862
3	8	0.00	-160.16	-203.52	402.77	-203.52	-402.77	379.8857
3	9	0.00	254.35	382.02	214.46	382.02	-214.46	386.6776
3	10	0.00	-27.49	-14.47	-39.83	-14.47	39.83	38.0671
3	11	0.00	-2.27	-42.15	17.44	-42.15	-17.44	37.2680
3	12	0.00	-7.89	66.13	-317.77	66.13	317.77	265.0561
3	13	0.00	-22.92	-40.66	37.72	-40.66	-37.72	47.1784
3	14	0.00	49.29	35.14	41.43	35.14	-41.43	52.7005
3	15	0.00	1.00	6.57	-10.74	6.57	10.74	10.2960
3	16	0.00	-12.36	1.31	-28.71	1.31	28.71	24.5271
3	17	0.00	7.58	-29.51	0.82	-29.51	-0.82	24.4982
3	18	0.00	7.40	-5.54	139.66	-5.54	-139.66	114.2015
3	19	0.00	66.82	38.35	-9.21	38.35	9.21	50.2527
3	20	0.00	-29.03	-4.57	-44.43	-4.57	44.43	40.1354
3	21	0.00	-0.97	32.71	-	32.71	101.50	87.0734

					101.50			
3	22	0.00	26.53	118.65	55.67	118.65	-55.67	108.1015
3	23	0.00	12.88	22.40	99.20	22.40	-99.20	83.3680
3	24	0.00	12.63	100.22	-24.30	100.22	24.30	84.5155
3	25	0.00	7.95	9.51	-27.55	9.51	27.55	24.2356
3	26	0.00	0.75	28.32	10.18	28.32	-10.18	24.5755
3	27	0.00	-3.42	-0.57	-51.34	-0.57	51.34	41.9680
3	28	0.00	6.01	-23.12	149.47	-23.12	-149.47	123.5418
3	29	0.00	-1.84	48.91	50.52	48.91	-50.52	57.4233
3	30	0.00	-37.60	-48.33	49.51	-48.33	-49.51	60.5195
4	0	0.00	-397.56	47.06	6.60	47.06	-6.60	232.7877
4	1	0.00	-23.57	-8.24	21.20	-8.24	-21.20	23.0233
4	2	0.00	65.93	142.97	606.56	142.97	-606.56	510.2475
4	3	0.00	104.56	584.48	-	584.48	158.99	498.2376
					158.99			
4	4	0.00	20.99	252.76	117.98	252.76	-117.98	228.0748
4	5	0.00	12.57	120.33	-	120.33	241.95	220.7534
					241.95			
4	6	0.00	-713.72	69.99	26.18	69.99	-26.18	416.5590
4	7	0.00	-116.83	17.64	3.54	17.64	-3.54	69.0330
4	8	0.00	-0.72	-50.09	94.71	-50.09	-94.71	87.4805
4	9	0.00	-24.42	-76.35	-55.37	-76.35	55.37	78.2872
4	10	0.00	23.05	106.69	26.41	106.69	-26.41	90.7226
4	11	0.00	-0.20	-28.47	108.53	-28.47	-108.53	91.6127
4	12	0.00	20.84	3.08	-5.03	3.08	5.03	12.9599
4	13	0.00	5.15	8.76	61.35	8.76	-61.35	50.6874
4	14	0.00	-10.47	-56.95	7.94	-56.95	-7.94	47.3368
4	15	0.00	24.39	-1.52	-1.70	-1.52	1.70	14.2041
4	16	0.00	2.20	17.87	-25.92	17.87	25.92	25.7372
4	17	0.00	5.13	22.74	15.44	22.74	-15.44	22.6371
4	18	0.00	-47.52	0.05	4.03	0.05	-4.03	27.6323
4	19	0.00	0.40	29.18	-11.16	29.18	11.16	25.5094
4	20	0.00	1.75	10.02	26.68	10.02	-26.68	23.2917
4	21	0.00	-78.99	9.17	3.33	9.17	-3.33	46.2953
4	22	0.00	-137.09	15.73	3.48	15.73	-3.48	80.2346
4	23	0.00	2.49	32.20	-34.77	32.20	34.77	38.7203
4	24	0.00	8.22	33.37	30.34	33.37	-30.34	37.1291
4	25	0.00	3.42	-4.63	78.50	-4.63	-78.50	64.2367
4	26	0.00	16.15	76.66	4.27	76.66	-4.27	63.3793
4	27	0.00	29.52	-2.67	-1.26	-2.67	1.26	17.2130
4	28	0.00	-42.55	10.41	-2.49	10.41	2.49	26.0745
4	29	0.00	5.85	11.68	24.20	11.68	-24.20	22.1987
4	30	0.00	4.80	23.77	-13.90	23.77	13.90	22.6531
5	0	0.00	-3.73	37.41	-	37.41	342.01	280.9238

					342.01			
5	1	0.00	23.05	-80.74	613.72	-80.74	-613.72	505.5933
5	2	0.00	-70.88	-350.95	95.45	-350.95	-95.45	299.7650
5	3	0.00	-57.53	-126.36	-	-126.36	345.85	302.4720
					345.85			
5	4	0.00	-633.54	211.77	71.81	211.77	-71.81	408.8110
5	5	0.00	-282.56	-29.69	164.42	-29.69	-164.42	212.6586
5	6	0.00	90.63	272.39	87.43	272.39	-87.43	239.3703
5	7	0.00	20.41	120.12	-	120.12	119.57	138.8862
					119.57			
5	8	0.00	-88.78	-80.68	258.37	-80.68	-258.37	226.8704
5	9	0.00	-208.80	284.25	100.73	284.25	-100.73	274.1573
5	10	0.00	-9.91	6.29	-29.09	6.29	29.09	24.9653
5	11	0.00	-46.86	-24.99	-8.38	-24.99	8.38	34.5703
5	12	0.00	-6.79	35.83	-	35.83	205.27	170.1815
					205.27			
5	13	0.00	-29.97	-14.52	56.73	-14.52	-56.73	50.8476
5	14	0.00	23.95	57.87	16.04	57.87	-16.04	50.9445
5	15	0.00	-6.93	-10.09	-75.32	-10.09	75.32	62.1768
5	16	0.00	1.92	65.86	-22.00	65.86	22.00	56.7062
5	17	0.00	20.47	-23.58	-64.85	-23.58	64.85	57.5676
5	18	0.00	-2.16	-64.95	149.84	-64.95	-149.84	133.3488
5	19	0.00	-120.92	50.65	11.73	50.65	-11.73	81.7061
5	20	0.00	18.39	5.49	-40.52	5.49	40.52	35.0343
5	21	0.00	9.39	36.31	-15.93	36.31	15.93	32.8255
5	22	0.00	9.45	47.37	-47.85	47.37	47.85	55.2461
5	23	0.00	-77.68	50.30	9.72	50.30	-9.72	61.3279
5	24	0.00	-26.10	7.12	-42.62	7.12	42.62	38.3646
5	25	0.00	-1.17	-10.17	17.10	-10.17	-17.10	16.2588
5	26	0.00	-0.26	-21.05	-10.47	-21.05	10.47	19.1965
5	27	0.00	-5.31	-16.82	-22.70	-16.82	22.70	23.2709
5	28	0.00	9.53	99.25	-	99.25	148.88	146.1990
					148.88			
5	29	0.00	-11.65	-6.15	-16.41	-6.15	16.41	15.8108
5	30	0.00	51.94	15.05	-9.31	15.05	9.31	33.2872
6	0	0.00	-75.96	-338.72	-36.06	-338.72	36.06	281.5629
6	1	0.00	124.04	608.34	75.27	608.34	-75.27	505.5928
6	2	0.00	-32.26	-112.78	-	-112.78	340.25	293.2686
					340.25			
6	3	0.00	55.62	358.69	-	358.69	115.34	309.3096
					115.34			
6	4	0.00	281.23	-74.85	137.59	-74.85	-137.59	206.6861
6	5	0.00	-699.37	-81.93	-35.56	-81.93	35.56	410.3139
6	6	0.00	-19.15	92.77	-	92.77	280.92	241.8066

					280.92			
6	7	0.00	-28.88	-113.61	-	-113.61	120.69	136.3582
					120.69			
6	8	0.00	-319.56	-232.02	-81.58	-232.02	81.58	272.6999
6	9	0.00	86.62	-100.74	255.66	-100.74	-255.66	229.8726
6	10	0.00	-34.36	35.49	9.68	35.49	-9.68	35.9958
6	11	0.00	9.44	7.48	-27.40	7.48	27.40	23.8225
6	12	0.00	-40.99	-201.86	-35.35	-201.86	35.35	168.9915
6	13	0.00	-0.59	-59.82	-16.30	-59.82	16.30	50.6247
6	14	0.00	30.67	-21.03	57.17	-21.03	-57.17	52.7952
6	15	0.00	-14.11	-73.82	6.63	-73.82	-6.63	61.0622
6	16	0.00	36.38	14.38	64.18	14.38	-64.18	57.6634
6	17	0.00	21.01	66.73	-20.29	66.73	20.29	58.2253
6	18	0.00	32.52	148.13	65.88	148.13	-65.88	133.6948
6	19	0.00	20.49	-9.11	37.64	-9.11	-37.64	33.7607
6	20	0.00	137.10	25.85	3.84	25.85	-3.84	81.9804
6	21	0.00	-5.94	-14.58	-37.65	-14.58	37.65	33.1435
6	22	0.00	-14.81	-46.46	-47.58	-46.46	47.58	54.9670
6	23	0.00	-22.15	-3.47	43.48	-3.47	-43.48	37.8406
6	24	0.00	95.69	35.38	4.53	35.38	-4.53	62.4529
6	25	0.00	-9.69	-18.46	-9.20	-18.46	9.20	17.7456
6	26	0.00	1.09	12.15	-18.32	12.15	18.32	17.9599
6	27	0.00	-2.75	-22.96	17.05	-22.96	-17.05	23.4043
6	28	0.00	-38.19	-146.30	-99.65	-146.30	99.65	146.2032
6	29	0.00	-44.38	25.44	-1.39	25.44	1.39	33.0042
6	30	0.00	-7.19	3.08	17.71	3.08	-17.71	15.2529
7	0	0.00	-21.91	-171.68	116.10	-171.68	-116.10	169.6924
7	1	0.00	-109.96	-526.35	-85.66	-526.35	85.66	440.0209
7	2	0.00	-114.71	-313.64	-	-313.64	370.88	402.0789
					370.88			
7	3	0.00	58.79	376.07	-	376.07	315.26	402.1158
					315.26			
7	4	0.00	-218.62	-49.50	8.86	-49.50	-8.86	132.7306
7	5	0.00	106.20	-17.04	-68.88	-17.04	68.88	84.3565
7	6	0.00	-31.00	-138.44	-88.03	-138.44	88.03	135.1429
7	7	0.00	-11.00	-101.17	41.17	-101.17	-41.17	89.4086
7	8	0.00	-794.69	121.53	-	121.53	136.55	482.4808
					136.55			
7	9	0.00	44.99	-166.25	-45.39	-166.25	45.39	143.0882
7	10	0.00	53.79	12.79	32.76	12.79	-32.76	42.2964
7	11	0.00	-41.41	37.82	-15.85	37.82	15.85	41.1418
7	12	0.00	8.90	-33.06	145.36	-33.06	-145.36	121.8253
7	13	0.00	-185.18	50.00	-40.53	50.00	40.53	119.1316
7	14	0.00	-26.74	-44.55	-30.82	-44.55	30.82	46.8479

7	15	0.00	5.10	18.09	28.30	18.09	-28.30	27.5819
7	16	0.00	56.42	-15.88	5.85	-15.88	-5.85	35.3837
7	17	0.00	73.91	-1.08	7.63	-1.08	-7.63	43.1333
7	18	0.00	-8.36	-4.91	-89.36	-4.91	89.36	73.2314
7	19	0.00	38.22	-55.07	25.08	-55.07	-25.08	54.1116
7	20	0.00	-1.79	27.33	49.50	27.33	-49.50	46.1792
7	21	0.00	-10.39	-68.05	28.92	-68.05	-28.92	60.6693
7	22	0.00	1.79	19.23	-9.86	19.23	9.86	17.6751
7	23	0.00	-112.49	56.36	-16.54	56.36	16.54	80.7342
7	24	0.00	-1.83	-20.87	-45.03	-20.87	45.03	40.5375
7	25	0.00	38.12	-39.65	-15.07	-39.65	15.07	41.0349
7	26	0.00	10.09	13.81	-34.67	13.81	34.67	31.0229
7	27	0.00	2.63	8.78	0.94	8.78	-0.94	7.3680
7	28	0.00	43.38	196.58	32.72	196.58	-32.72	164.6313
7	29	0.00	-37.65	4.78	-62.39	4.78	62.39	55.5225
7	30	0.00	-50.53	72.74	8.42	72.74	-8.42	66.5264
8	0	0.00	31.35	114.91	169.72	114.91	-169.72	168.3263
8	1	0.00	17.12	-84.63	529.38	-84.63	-529.38	437.8371
8	2	0.00	49.25	376.13	-324.72	376.13	324.72	406.7183
8	3	0.00	56.57	313.75	372.56	313.75	-372.56	399.0322
8	4	0.00	-119.22	5.71	-59.90	5.71	59.90	84.5668
8	5	0.00	-191.50	87.58	-0.12	87.58	0.12	131.6723
8	6	0.00	-2.05	-88.10	142.34	-88.10	-142.34	136.6855
8	7	0.00	11.26	39.01	100.87	39.01	-100.87	88.5435
8	8	0.00	113.14	151.10	43.26	151.10	-43.26	143.9976
8	9	0.00	790.43	-32.88	-185.78	-32.88	185.78	481.6535
8	10	0.00	-53.38	-30.57	17.66	-30.57	-17.66	42.1988
8	11	0.00	-43.01	21.73	33.98	21.73	-33.98	41.2453
8	12	0.00	27.56	143.54	30.15	143.54	-30.15	120.8099
8	13	0.00	-4.25	48.85	32.50	48.85	-32.50	47.9695
8	14	0.00	191.20	13.59	-52.74	13.59	52.74	119.0096
8	15	0.00	1.64	28.86	-18.03	28.86	18.03	27.8008
8	16	0.00	70.90	-11.76	-14.29	-11.76	14.29	43.6341
8	17	0.00	-60.16	-6.42	8.21	-6.42	-8.21	35.7606
8	18	0.00	-15.58	-89.47	5.97	-89.47	-5.97	73.7649
8	19	0.00	-18.78	-24.24	-49.23	-24.24	49.23	46.0978
8	20	0.00	-54.92	-45.38	27.74	-45.38	-27.74	53.7708
8	21	0.00	9.56	28.22	68.22	28.22	-68.22	60.5312
8	22	0.00	-0.66	-8.17	-19.39	-8.17	19.39	17.1841
8	23	0.00	11.70	19.65	45.40	19.65	-45.40	40.9530
8	24	0.00	127.41	33.50	-24.55	33.50	24.55	81.0004
8	25	0.00	-9.11	15.42	-35.04	15.42	35.04	31.6973

8	26	0.00	53.57	29.37	12.61	29.37	-12.61	40.4679
8	27	0.00	-0.75	1.29	-9.15	1.29	9.15	7.5572
8	28	0.00	-4.55	35.78	-198.84	35.78	198.84	164.9806
8	29	0.00	77.16	56.26	5.43	56.26	-5.43	64.1431
8	30	0.00	-30.27	-2.01	61.21	-2.01	-61.21	52.9707
9	0	0.00	515.37	-48.01	-16.35	-48.01	16.35	300.4168
9	1	0.00	-27.80	1.68	5.35	1.68	-5.35	16.6906
9	2	0.00	-103.90	-590.97	205.68	-590.97	-205.68	514.4236
9	3	0.00	77.53	197.46	605.74	197.46	-605.74	522.1219
9	4	0.00	-45.40	-168.07	-150.45	-168.07	150.45	186.0346
9	5	0.00	-18.76	-149.94	172.18	-149.94	-172.18	186.7332
9	6	0.00	-153.36	19.27	9.01	19.27	-9.01	90.2299
9	7	0.00	304.55	-29.06	-9.11	-29.06	9.11	177.5816
9	8	0.00	18.01	67.78	-81.36	67.78	81.36	87.0852
9	9	0.00	25.01	82.81	67.80	82.81	-67.80	88.5704
9	10	0.00	6.74	20.79	74.11	20.79	-74.11	62.9668
9	11	0.00	-15.76	-73.61	22.11	-73.61	-22.11	63.4112
9	12	0.00	533.56	-51.99	-16.84	-51.99	16.84	311.2659
9	13	0.00	0.58	-3.41	-55.66	-3.41	55.66	45.5326
9	14	0.00	12.92	55.67	-3.49	55.67	3.49	46.1504
9	15	0.00	49.94	-5.80	-2.30	-5.80	2.30	29.2795
9	16	0.00	7.26	15.31	23.35	15.31	-23.35	23.1801
9	17	0.00	-7.11	-23.68	15.79	-23.68	-15.79	23.5986
9	18	0.00	-209.99	20.49	7.36	20.49	-7.36	122.5341
9	19	0.00	-12.71	-58.91	-15.91	-58.91	15.91	50.3606
9	20	0.00	-1.84	15.22	-59.81	15.22	59.81	50.4022
9	21	0.00	122.14	-11.15	-3.65	-11.15	3.65	71.1652
9	22	0.00	-70.04	6.95	2.92	6.95	-2.92	40.9034
9	23	0.00	12.12	42.84	21.58	42.84	-21.58	39.7862
9	24	0.00	-0.51	-21.39	44.55	-21.39	-44.55	40.3515
9	25	0.00	-11.38	-61.78	27.20	-61.78	-27.20	55.5059
9	26	0.00	9.38	26.95	62.95	26.95	-62.95	56.1723
9	27	0.00	64.82	-6.45	-1.74	-6.45	1.74	37.8193
9	28	0.00	14.31	-3.49	-0.63	-3.49	0.63	8.7546
9	29	0.00	-5.66	-47.25	52.00	-47.25	-52.00	57.4606
9	30	0.00	14.68	50.67	47.20	50.67	-47.20	57.1725
10	0	0.00	106.82	-10.86	-2.44	-10.86	2.44	62.3386
10	1	0.00	5.92	-1.33	-1.10	-1.33	1.10	3.6970
10	2	0.00	-13.56	-19.51	-155.29	-19.51	155.29	128.0301
10	3	0.00	-28.67	-153.23	22.27	-153.23	-22.27	127.5052
10	4	0.00	13.56	54.53	-2.50	54.53	2.50	45.2527

10	5	0.00	-3.87	-2.48	-55.78	-2.48	55.78	45.6439
10	6	0.00	128.87	-13.92	-3.81	-13.92	3.81	75.3305
10	7	0.00	7.88	-0.62	0.27	-0.62	-0.27	4.5829
10	8	0.00	22.85	118.61	-15.10	118.61	15.10	98.5136
10	9	0.00	11.49	14.65	119.47	14.65	-119.47	98.5011
10	10	0.00	160.03	685.51	399.59	685.51	-399.59	654.4213
10	11	0.00	-36.33	-399.76	693.89	-399.76	-693.89	654.1923
10	12	0.00	-67.63	6.63	4.77	6.63	-4.77	39.6116
10	13	0.00	2.88	-43.18	194.66	-43.18	-194.66	162.8111
10	14	0.00	-40.56	-193.27	-42.01	-193.27	42.01	163.1782
10	15	0.00	23.43	-4.85	-0.59	-4.85	0.59	14.1033
10	16	0.00	9.69	31.18	42.88	31.18	-42.88	43.6489
10	17	0.00	-7.02	-40.97	32.38	-40.97	-32.38	42.8303
10	18	0.00	-74.52	7.55	1.93	7.55	-1.93	43.4921
10	19	0.00	3.91	23.74	-16.77	23.74	16.77	23.8392
10	20	0.00	4.59	16.27	24.17	16.27	-24.17	23.9365
10	21	0.00	16.45	-1.74	-0.59	-1.74	0.59	9.6152
10	22	0.00	27.36	-3.20	-1.00	-3.20	1.00	16.0317
10	23	0.00	2.05	-9.99	63.26	-9.99	-63.26	52.3051
10	24	0.00	-12.95	-62.25	-9.31	-62.25	9.31	51.9332
10	25	0.00	14.70	38.21	114.66	38.21	-114.66	99.0453
10	26	0.00	20.00	114.08	-38.92	114.08	38.92	99.0926
10	27	0.00	-3.24	0.97	0.17	0.97	-0.17	2.0361
10	28	0.00	6.61	1.10	0.78	1.10	-0.78	3.9719
10	29	0.00	18.75	99.87	-14.07	99.87	14.07	83.0573
10	30	0.00	-8.85	-13.50	-99.91	-13.50	99.91	82.4759
11	0	0.00	34.63	116.73	180.15	116.73	-180.15	176.4077
11	1	0.00	22.96	73.84	133.03	73.84	-133.03	124.9344
11	2	0.00	-17.09	-4.01	80.94	-4.01	-80.94	66.8999
11	3	0.00	-39.39	-78.43	-3.67	-78.43	3.67	68.0222
11	4	0.00	-106.77	-0.84	-12.65	-0.84	12.65	62.5068
11	5	0.00	-33.60	21.03	-10.61	21.03	10.61	27.3168
11	6	0.00	0.20	-42.00	103.50	-42.00	-103.50	91.2004
11	7	0.00	-81.73	-245.67	-	-245.67	534.92	482.9307
					534.92			
11	8	0.00	-6.46	-2.97	10.64	-2.97	-10.64	9.7603
11	9	0.00	-15.12	14.56	1.78	14.56	-1.78	14.8205
11	10	0.00	-376.92	36.88	-8.84	36.88	8.84	219.8069
11	11	0.00	498.15	-70.09	-14.82	-70.09	14.82	293.4950
11	12	0.00	56.26	207.42	230.93	207.42	-230.93	255.5182
11	13	0.00	97.43	59.82	-98.45	59.82	98.45	109.5966
11	14	0.00	28.12	-100.64	-67.96	-100.64	67.96	100.4733
11	15	0.00	37.45	78.39	237.58	78.39	-237.58	205.4110
11	16	0.00	-188.08	-196.97	17.26	-196.97	-17.26	194.5630

11	17	0.00	163.90	-10.44	205.45	-10.44	-205.45	192.7871
11	18	0.00	23.93	161.23	-95.95	161.23	95.95	153.8134
11	19	0.00	-37.92	0.97	-6.24	0.97	6.24	22.4921
11	20	0.00	-3.72	-7.27	2.81	-7.27	-2.81	6.7166
11	21	0.00	4.79	14.00	30.52	14.00	-30.52	27.5553
11	22	0.00	-1.95	-9.23	-4.45	-9.23	4.45	8.4418
11	23	0.00	26.15	-14.47	-18.22	-14.47	18.22	24.2660
11	24	0.00	19.42	-19.78	11.23	-19.78	-11.23	21.6938
11	25	0.00	27.10	-14.45	-3.69	-14.45	3.69	19.8263
11	26	0.00	-79.48	11.15	-9.27	11.15	9.27	47.3905
11	27	0.00	-4.57	-11.84	-31.41	-11.84	31.41	27.5344
11	28	0.00	-9.91	-28.66	-53.08	-28.66	53.08	49.5849
11	29	0.00	-69.81	-3.18	6.07	-3.18	-6.07	40.6913
11	30	0.00	-38.44	0.51	-9.76	0.51	9.76	23.5844
12	0	0.00	28.59	179.27	-118.92	179.27	118.92	176.4245
12	1	0.00	21.17	131.12	-75.69	131.12	75.69	124.2189
12	2	0.00	6.90	-84.08	-5.08	-84.08	5.08	68.8915
12	3	0.00	-25.18	7.42	-80.36	7.42	80.36	67.4774
12	4	0.00	39.91	16.73	-10.92	16.73	10.92	28.2317
12	5	0.00	-100.12	18.99	21.62	18.99	-21.62	62.3969
12	6	0.00	22.04	102.34	42.51	102.34	-42.51	91.3727
12	7	0.00	-88.70	-531.51	249.70	-531.51	-249.70	482.2080
12	8	0.00	-20.62	-14.61	-0.44	-14.61	0.44	16.8570
12	9	0.00	6.71	-4.31	14.21	-4.31	-14.21	12.7282
12	10	0.00	505.65	-28.89	-14.39	-28.89	14.39	293.1242
12	11	0.00	374.47	-38.78	-29.53	-38.78	29.53	219.8330
12	12	0.00	33.90	227.54	-210.82	227.54	210.82	254.0264
12	13	0.00	73.64	92.63	64.78	92.63	-64.78	101.6143
12	14	0.00	-82.63	74.69	-94.19	74.69	94.19	109.1305
12	15	0.00	40.30	230.11	-70.69	230.11	70.69	197.9221
12	16	0.00	136.79	-12.20	-221.00	-12.20	221.00	197.2234
12	17	0.00	105.61	-232.36	1.95	-232.36	-1.95	199.2849
12	18	0.00	-30.02	-93.26	-164.62	-93.26	164.62	155.4515
12	19	0.00	-1.19	7.94	-2.83	7.94	2.83	6.9167
12	20	0.00	35.94	-6.37	-8.60	-6.37	8.60	22.5149
12	21	0.00	5.21	30.11	-14.25	30.11	14.25	27.3648
12	22	0.00	-0.66	-4.40	9.13	-4.40	-9.13	8.2839
12	23	0.00	24.94	15.51	-12.53	15.51	12.53	21.7342
12	24	0.00	-32.88	-8.94	-16.69	-8.94	16.69	24.4817
12	25	0.00	79.41	-4.38	-13.81	-4.38	13.81	47.3489

12	26	0.00	32.07	9.26	1.91	9.26	-1.91	20.0605
12	27	0.00	-5.16	-31.26	11.87	-31.26	-11.87	27.4639
12	28	0.00	-7.41	-53.08	28.96	-53.08	-28.96	49.5555
12	29	0.00	36.08	-5.80	-12.09	-5.80	12.09	23.5328
12	30	0.00	-66.25	16.87	-1.36	16.87	1.36	40.6692
13	0	0.00	-7.84	-71.10	71.11	-71.10	-71.11	82.2297
13	1	0.00	1.62	-35.79	141.23	-35.79	-141.23	118.9626
13	2	0.00	-22.62	47.89	70.37	47.89	-70.37	70.7164
13	3	0.00	-7.20	-70.68	45.72	-70.68	-45.72	68.8569
13	4	0.00	-135.07	-16.43	19.86	-16.43	-19.86	80.7726
13	5	0.00	-11.83	-16.93	-29.86	-16.93	29.86	28.8469
13	6	0.00	-4.39	6.12	-131.90	6.12	131.90	107.8416
13	7	0.00	-17.36	-186.32	324.97	-186.32	-324.97	306.0189
13	8	0.00	134.17	-42.43	-66.27	-42.43	66.27	100.6407
13	9	0.00	46.03	-68.90	26.88	-68.90	-26.88	65.9754
13	10	0.00	334.97	-16.04	9.62	-16.04	-9.62	193.9970
13	11	0.00	6.89	19.64	-20.41	19.64	20.41	23.4668
13	12	0.00	33.82	208.44	-107.98	208.44	107.98	192.6635
13	13	0.00	-14.72	-187.31	25.41	-187.31	-25.41	154.5726
13	14	0.00	-43.42	29.03	189.76	29.03	-189.76	158.7330
13	15	0.00	-6.87	-115.43	357.16	-115.43	-357.16	306.4974
13	16	0.00	-5.60	-329.22	236.38	-329.22	-236.38	330.9350
13	17	0.00	-175.04	252.38	323.86	252.38	-323.86	350.1433
13	18	0.00	71.96	314.72	180.86	314.72	-180.86	299.2748
13	19	0.00	-27.39	8.10	4.73	8.10	-4.73	17.5706
13	20	0.00	-9.21	5.21	-5.09	5.21	5.09	7.9776
13	21	0.00	-2.04	-10.15	-4.15	-10.15	4.15	9.0305
13	22	0.00	-1.28	5.98	-37.15	5.98	37.15	30.7322
13	23	0.00	6.50	-27.94	-14.47	-27.94	14.47	25.9634
13	24	0.00	-32.13	-11.27	28.39	-11.27	-28.39	31.0824
13	25	0.00	29.19	-0.08	-20.03	-0.08	20.03	23.4838
13	26	0.00	40.97	14.19	1.16	14.19	-1.16	26.3562
13	27	0.00	1.75	-20.94	91.87	-20.94	-91.87	76.9420
13	28	0.00	6.04	24.19	11.74	24.19	-11.74	22.2295
13	29	0.00	63.57	-12.08	9.22	-12.08	-9.22	38.7428
13	30	0.00	-2.77	-11.15	-5.22	-11.15	5.22	10.1786
14	0	0.00	-18.32	-71.01	-70.70	-71.01	70.70	82.4974
14	1	0.00	-29.73	-139.59	-35.36	-139.59	35.36	118.8210
14	2	0.00	14.99	71.54	-45.58	71.54	45.58	69.7990
14	3	0.00	49.11	41.59	69.58	41.59	-69.58	72.0046
14	4	0.00	-0.22	20.93	30.81	20.93	-30.81	30.4121
14	5	0.00	125.80	-43.69	13.83	-43.69	-13.83	81.7023

14	6	0.00	26.59	129.77	4.31	129.77	-4.31	107.1209
14	7	0.00	-75.03	-319.86	-186.10	-319.86	186.10	305.2413
14	8	0.00	-67.33	-59.65	28.29	-59.65	-28.29	66.4586
14	9	0.00	153.65	12.15	58.62	12.15	-58.62	101.2854
14	10	0.00	-1.25	19.40	-18.83	19.40	18.83	22.0863
14	11	0.00	324.39	-50.76	-30.65	-50.76	30.65	193.4432
14	12	0.00	33.89	104.39	204.87	104.39	-204.87	188.7560
14	13	0.00	75.89	19.05	188.77	19.05	-188.77	160.9900
14	14	0.00	55.58	185.64	-25.87	185.64	25.87	156.3672
14	15	0.00	-83.24	-352.22	-139.02	-352.22	139.02	312.8897
14	16	0.00	303.36	194.72	309.05	194.72	-309.05	345.8723
14	17	0.00	92.95	320.08	-227.55	320.08	227.55	325.1154
14	18	0.00	-14.95	-181.88	322.26	-181.88	-322.26	302.2621
14	19	0.00	10.25	3.21	-5.54	3.21	5.54	7.8963
14	20	0.00	-29.98	-2.26	-3.18	-2.26	3.18	17.5996
14	21	0.00	-0.21	4.21	-10.44	4.21	10.44	9.1920
14	22	0.00	8.16	37.38	6.05	37.38	-6.05	31.2747
14	23	0.00	30.19	-17.54	26.09	-17.54	-26.09	31.0275
14	24	0.00	19.01	25.37	13.65	25.37	-13.65	25.9570
14	25	0.00	33.62	-21.15	-3.63	-21.15	3.63	26.1490
14	26	0.00	-30.11	5.57	-17.12	5.57	17.12	22.7658
14	27	0.00	-19.50	-91.16	-20.81	-91.16	20.81	77.1722
14	28	0.00	0.86	-11.11	24.32	-11.11	-24.32	21.8367
14	29	0.00	2.53	11.61	4.67	11.61	-4.67	10.3215
14	30	0.00	-63.82	1.31	14.03	1.31	-14.03	38.6010
15	0	0.00	-294.50	28.99	10.65	28.99	-10.65	171.8894
15	1	0.00	-2.12	0.86	2.42	0.86	-2.42	2.4281
15	2	0.00	31.57	157.26	8.86	157.26	-8.86	129.8911
15	3	0.00	-8.54	8.53	-156.96	8.53	156.96	128.4411
15	4	0.00	-42.07	-163.47	-111.43	-163.47	111.43	163.3484
15	5	0.00	-11.53	-111.89	165.01	-111.89	-165.01	162.9195
15	6	0.00	-56.32	8.09	3.24	8.09	-3.24	33.2858
15	7	0.00	-55.24	3.85	1.18	3.85	-1.18	32.0619
15	8	0.00	11.77	61.23	-21.38	61.23	21.38	53.3884
15	9	0.00	8.44	18.97	62.40	18.97	-62.40	53.4742
15	10	0.00	51.14	229.90	91.34	229.90	-91.34	204.1317
15	11	0.00	-2.86	-91.35	232.48	-91.35	-232.48	203.9540
15	12	0.00	68.43	-8.76	0.84	-8.76	-0.84	40.1562
15	13	0.00	-15.85	19.32	-	19.32	330.76	270.6795

					330.76			
15	14	0.00	66.00	327.97	20.53	327.97	-20.53	271.0028
15	15	0.00	142.52	-12.63	-6.92	-12.63	6.92	83.1199
15	16	0.00	5.06	4.55	29.06	4.55	-29.06	24.1935
15	17	0.00	-9.22	-33.10	2.32	-33.10	-2.32	27.6103
15	18	0.00	415.44	-41.35	-13.79	-41.35	13.79	242.4805
15	19	0.00	-4.15	-26.12	22.81	-26.12	-22.81	28.4155
15	20	0.00	-6.13	-22.32	-26.39	-22.32	26.39	28.4418
15	21	0.00	-21.79	2.22	0.51	2.22	-0.51	12.7172
15	22	0.00	24.90	-2.54	-1.68	-2.54	1.68	14.5895
15	23	0.00	-5.89	-29.62	-0.92	-29.62	0.92	24.4341
15	24	0.00	-2.08	1.36	-29.15	1.36	29.15	23.8570
15	25	0.00	8.07	23.94	51.74	23.94	-51.74	46.7811
15	26	0.00	8.47	51.35	-23.91	51.35	23.91	46.5072
15	27	0.00	-0.97	0.38	-0.03	0.38	0.03	0.6407
15	28	0.00	12.38	-0.66	0.00	-0.66	0.00	7.1679
15	29	0.00	10.26	43.95	22.96	43.95	-22.96	40.9178
15	30	0.00	1.73	22.88	-44.44	22.88	44.44	40.8240
16	0	0.00	9.00	31.62	87.35	31.62	-87.35	76.0278
16	1	0.00	22.91	82.33	106.03	82.33	-106.03	110.4024
16	2	0.00	21.26	33.11	80.35	33.11	-80.35	72.0111
16	3	0.00	-13.55	-81.32	46.37	-81.32	-46.37	76.8328
16	4	0.00	-60.73	-27.47	-0.52	-27.47	0.52	41.6248
16	5	0.00	-29.58	10.25	-42.11	10.25	42.11	39.2921
16	6	0.00	-17.85	-90.93	-48.69	-90.93	48.69	84.8461
16	7	0.00	-13.32	-42.16	-	-42.16	138.77	118.6684
					138.77			
16	8	0.00	100.63	7.64	-	7.64	111.83	108.4052
					111.83			
16	9	0.00	-45.04	-115.02	-21.83	-115.02	21.83	99.0638
16	10	0.00	-173.99	14.82	20.73	14.82	-20.73	102.5853
16	11	0.00	81.71	4.17	17.05	4.17	-17.05	49.3042
16	12	0.00	-20.30	-217.78	164.64	-217.78	-164.64	223.2196
16	13	0.00	46.46	23.21	4.63	23.21	-4.63	33.0596
16	14	0.00	40.55	33.32	-20.74	33.32	20.74	39.6864
16	15	0.00	-6.95	7.08	-	7.08	335.15	273.7393
					335.15			
16	16	0.00	92.21	324.22	-	324.22	115.66	286.0620
					115.66			
16	17	0.00	-49.10	-105.90	-	-105.90	322.34	278.4760
					322.34			
16	18	0.00	-40.37	-271.73	-87.84	-271.73	87.84	234.3330
16	19	0.00	-33.82	2.41	11.06	2.41	-11.06	21.6029
16	20	0.00	2.44	9.77	3.95	9.77	-3.95	8.7190

16	21	0.00	0.68	-1.29	27.96	-1.29	-27.96	22.8569
16	22	0.00	-9.34	-31.83	-22.73	-31.83	22.73	32.3874
16	23	0.00	12.54	-18.47	-11.42	-18.47	11.42	19.1517
16	24	0.00	-22.96	-13.39	18.61	-13.39	-18.61	22.9377
16	25	0.00	-8.56	13.14	22.99	13.14	-22.99	22.1786
16	26	0.00	-45.54	-13.91	16.18	-13.91	-16.18	31.5407
16	27	0.00	-5.21	-21.96	-50.24	-21.96	50.24	44.8692
16	28	0.00	-2.36	9.08	-83.23	9.08	83.23	68.3738
16	29	0.00	-12.78	-9.22	-9.60	-9.22	9.60	13.1360
16	30	0.00	15.62	9.26	-10.63	9.26	10.63	14.6227
17	0	0.00	15.31	86.78	-32.37	86.78	32.37	76.1393
17	1	0.00	15.31	104.55	-83.34	104.55	83.34	109.5246
17	2	0.00	-12.62	-80.50	41.96	-80.50	-41.96	74.4783
17	3	0.00	-3.79	-40.99	-83.26	-40.99	83.26	75.8050
17	4	0.00	26.20	-0.82	-37.13	-0.82	37.13	33.8874
17	5	0.00	-46.38	40.51	7.85	40.51	-7.85	43.0367
17	6	0.00	-5.20	-47.52	92.79	-47.52	-92.79	85.1730
17	7	0.00	-25.67	-141.20	43.09	-141.20	-43.09	121.4459
17	8	0.00	3.51	114.20	19.86	114.20	-19.86	94.6651
17	9	0.00	-106.86	31.74	-109.72	31.74	109.72	111.8196
17	10	0.00	75.65	-23.50	-14.08	-23.50	14.08	49.0711
17	11	0.00	174.91	-28.64	6.17	-28.64	-6.17	103.7788
17	12	0.00	43.72	163.29	216.25	163.29	-216.25	222.6857
17	13	0.00	32.41	-25.39	28.69	-25.39	-28.69	36.4506
17	14	0.00	-35.25	25.77	21.87	25.77	-21.87	34.2897
17	15	0.00	-69.76	-326.77	-28.33	-326.77	28.33	270.8191
17	16	0.00	32.17	99.63	327.13	99.63	-327.13	279.8305
17	17	0.00	22.77	334.95	-107.03	334.95	107.03	287.4093
17	18	0.00	-4.28	-91.13	277.81	-91.13	-277.81	238.7359
17	19	0.00	-1.98	-10.23	-2.28	-10.23	2.28	8.6337
17	20	0.00	34.23	-5.93	8.58	-5.93	-8.58	21.5194
17	21	0.00	6.05	27.63	1.29	27.63	-1.29	22.8529
17	22	0.00	-2.65	-22.82	31.95	-22.82	-31.95	32.0943
17	23	0.00	-19.32	15.72	-17.18	15.72	17.18	22.0439
17	24	0.00	-20.77	-14.67	-13.35	-14.67	13.35	20.1516
17	25	0.00	40.32	-23.89	11.83	-23.89	-11.83	31.8699
17	26	0.00	-16.40	-12.30	-20.26	-12.30	20.26	21.5443
17	27	0.00	-9.05	-50.49	22.06	-50.49	-22.06	45.2904
17	28	0.00	-17.71	-82.39	-9.63	-82.39	9.63	68.4966
17	29	0.00	-12.13	13.87	-9.12	13.87	9.12	15.2560
17	30	0.00	-7.90	9.88	11.10	9.88	-11.10	12.9622
18	0	0.00	-92.19	8.58	-1.75	8.58	1.75	53.7040

18	1	0.00	-5.02	-3.19	-6.51	-3.19	6.51	6.5907
18	2	0.00	-16.77	-79.13	-10.31	-79.13	10.31	65.8709
18	3	0.00	4.24	-3.55	73.64	-3.55	-73.64	60.2464
18	4	0.00	22.65	82.83	40.61	82.83	-40.61	76.4482
18	5	0.00	4.00	40.91	-80.25	40.91	80.25	73.5830
18	6	0.00	40.26	-0.88	0.94	-0.88	-0.94	23.2679
18	7	0.00	70.37	-7.61	6.33	-7.61	-6.33	41.4242
18	8	0.00	-5.25	-33.35	101.33	-33.35	-101.33	87.1542
18	9	0.00	-19.76	-88.06	-34.07	-88.06	34.07	77.9340
18	10	0.00	51.55	187.27	49.42	187.27	-49.42	160.9163
18	11	0.00	-0.18	-51.88	189.26	-51.88	-189.26	160.2309
18	12	0.00	252.15	-11.24	-10.66	-11.24	10.66	146.1273
18	13	0.00	-4.32	97.05	-377.76	97.05	377.76	318.4658
18	14	0.00	77.31	373.00	101.50	373.00	-101.50	318.7681
18	15	0.00	282.32	-32.45	8.69	-32.45	-8.69	165.2893
18	16	0.00	3.84	-10.59	30.15	-10.59	-30.15	26.1858
18	17	0.00	-5.33	-9.06	22.30	-9.06	-22.30	19.8927
18	18	0.00	418.73	-26.95	-3.52	-26.95	3.52	242.7703
18	19	0.00	7.00	27.11	0.38	27.11	-0.38	22.5033
18	20	0.00	1.77	-1.73	27.48	-1.73	-27.48	22.5050
18	21	0.00	-19.61	2.25	-0.94	2.25	0.94	11.4956
18	22	0.00	-22.09	3.43	2.30	3.43	-2.30	13.1919
18	23	0.00	1.90	1.18	43.16	1.18	-43.16	35.2702
18	24	0.00	-7.44	-42.15	-0.70	-42.15	0.70	34.6871
18	25	0.00	0.12	-20.33	45.38	-20.33	-45.38	40.6010
18	26	0.00	12.69	46.74	18.41	46.74	-18.41	41.6659
18	27	0.00	47.74	-4.32	2.10	-4.32	-2.10	27.8403
18	28	0.00	38.66	-5.28	3.01	-5.28	-3.01	22.8653
18	29	0.00	-1.52	-4.76	-3.84	-4.76	3.84	5.0701
18	30	0.00	-0.91	-4.71	6.33	-4.71	-6.33	6.4636
19	0	0.00	-8.59	-70.29	68.12	-70.29	-68.12	80.0746
19	1	0.00	3.80	29.01	-32.70	29.01	32.70	35.7593
19	2	0.00	1.86	-18.74	5.03	-18.74	-5.03	15.8791
19	3	0.00	-3.96	-4.79	-18.05	-4.79	18.05	15.4183
19	4	0.00	54.36	16.31	-36.23	16.31	36.23	45.1378
19	5	0.00	-3.25	36.99	23.68	36.99	-23.68	35.9099
19	6	0.00	-10.27	-61.55	42.85	-61.55	-42.85	61.5211
19	7	0.00	33.74	209.40	-119.59	209.40	119.59	197.8540
19	8	0.00	2.11	-43.13	-77.33	-43.13	77.33	72.3065
19	9	0.00	-45.51	-71.35	42.31	-71.35	-42.31	72.6477
19	10	0.00	-231.57	134.12	8.25	134.12	-8.25	172.9520
19	11	0.00	-121.25	11.08	-	11.08	107.51	112.6409

					107.51			
19	12	0.00	1.72	15.35	31.89	15.35	-31.89	28.9145
19	13	0.00	97.70	170.71	495.06	170.71	-495.06	431.2764
19	14	0.00	140.15	488.15	-	488.15	170.72	429.9277
					170.72			
19	15	0.00	14.49	44.80	215.71	44.80	-215.71	180.0793
19	16	0.00	630.63	-273.00	-24.77	-273.00	24.77	427.3871
19	17	0.00	235.21	-33.62	199.59	-33.62	-199.59	213.8977
19	18	0.00	36.09	188.72	-47.31	188.72	47.31	160.2180
19	19	0.00	-2.62	13.06	-16.21	13.06	16.21	17.0638
19	20	0.00	7.55	-17.72	-13.26	-17.72	13.26	18.5890
19	21	0.00	-0.42	-2.06	-0.26	-2.06	0.26	1.7126
19	22	0.00	-1.63	-12.50	11.17	-12.50	-11.17	13.7198
19	23	0.00	-15.16	-6.95	-29.75	-6.95	29.75	26.4358
19	24	0.00	8.35	-31.09	7.35	-31.09	-7.35	26.5264
19	25	0.00	-55.27	-20.10	-32.49	-20.10	32.49	44.6243
19	26	0.00	-48.83	38.76	-23.03	38.76	23.03	46.3674
19	27	0.00	6.54	33.32	-3.70	33.32	3.70	27.6321
19	28	0.00	0.48	-3.13	22.36	-3.13	-22.36	18.4370
19	29	0.00	-21.91	-23.18	3.75	-23.18	-3.75	22.9695
19	30	0.00	19.26	-6.30	-24.82	-6.30	24.82	23.6812
20	0	0.00	16.94	67.07	70.88	67.07	-70.88	80.2739
20	1	0.00	-8.23	-32.30	-28.85	-32.30	28.85	35.6789
20	2	0.00	-0.17	-4.51	-17.81	-4.51	17.81	15.0011
20	3	0.00	8.49	17.55	-4.50	17.55	4.50	15.5840
20	4	0.00	20.77	35.14	23.89	35.14	-23.89	36.7083
20	5	0.00	50.06	-28.76	32.99	-28.76	-32.99	45.9600
20	6	0.00	11.24	39.98	60.82	39.98	-60.82	59.7809
20	7	0.00	-36.13	-117.59	-	-117.59	210.80	198.1863
					210.80			
20	8	0.00	-20.45	78.97	-43.18	78.97	43.18	74.4306
20	9	0.00	-28.65	-41.08	-74.95	-41.08	74.95	71.7193
20	10	0.00	-108.13	10.36	113.39	10.36	-113.39	111.9841
20	11	0.00	274.85	85.06	-7.57	85.06	7.57	173.3278
20	12	0.00	6.75	37.07	-18.46	37.07	18.46	34.0366
20	13	0.00	-32.85	-502.72	172.20	-502.72	-172.20	434.2962
20	14	0.00	30.53	171.05	492.79	171.05	-492.79	426.2754
20	15	0.00	15.59	208.35	-34.05	208.35	34.05	172.6087
20	16	0.00	214.14	-4.37	-	-4.37	217.39	216.3415
					217.39			
20	17	0.00	-713.84	-147.88	9.03	-147.88	-9.03	429.5221
20	18	0.00	-17.26	-43.74	-	-43.74	193.81	162.5309
					193.81			
20	19	0.00	15.71	15.30	12.39	15.30	-12.39	18.4572

20	20	0.00	5.50	12.64	-16.56	12.64	16.56	17.3037
20	21	0.00	-0.03	-0.75	2.20	-0.75	-2.20	1.8979
20	22	0.00	2.74	10.79	12.20	10.79	-12.20	13.3920
20	23	0.00	19.52	28.57	-8.62	28.57	8.62	26.8460
20	24	0.00	8.19	-9.08	-30.21	-9.08	30.21	26.1869
20	25	0.00	58.81	28.95	-26.02	28.95	26.02	46.5077
20	26	0.00	-41.14	29.31	35.21	29.31	-35.21	44.3100
20	27	0.00	-3.51	-2.77	-34.06	-2.77	34.06	27.9752
20	28	0.00	4.00	21.64	1.94	21.64	-1.94	17.8895
20	29	0.00	-23.82	-1.66	-24.00	-1.66	24.00	23.9785
20	30	0.00	-12.00	27.10	-3.49	27.10	3.49	23.3608
21	0	0.00	144.37	-12.70	-4.60	-12.70	4.60	84.0785
21	1	0.00	15.78	-1.77	-0.23	-1.77	0.23	9.2264
21	2	0.00	0.71	5.07	-2.39	5.07	2.39	4.5949
21	3	0.00	-0.64	-2.27	-4.88	-2.27	4.88	4.4100
21	4	0.00	-5.69	-39.84	27.47	-39.84	-27.47	39.6486
21	5	0.00	7.88	26.42	40.25	26.42	-40.25	39.5738
21	6	0.00	41.28	-2.60	-1.74	-2.60	1.74	23.9695
21	7	0.00	-23.76	1.47	0.42	1.47	-0.42	13.7745
21	8	0.00	-27.36	-122.90	-39.98	-122.90	39.98	106.6993
21	9	0.00	-0.16	40.29	-126.01	40.29	126.01	108.0180
21	10	0.00	-11.92	-85.96	67.33	-85.96	-67.33	89.4185
21	11	0.00	-15.71	-64.64	-85.24	-64.64	85.24	87.8164
21	12	0.00	-234.29	18.05	5.37	18.05	-5.37	136.1385
21	13	0.00	117.03	595.63	39.30	595.63	-39.30	492.0485
21	14	0.00	27.63	-46.49	610.91	-46.49	-610.91	500.5025
21	15	0.00	743.35	-70.12	-24.27	-70.12	24.27	433.4285
21	16	0.00	11.52	-24.47	-4.24	-24.47	4.24	21.3403
21	17	0.00	-21.12	4.06	-27.32	4.06	27.32	25.6371
21	18	0.00	-154.64	12.51	3.84	12.51	-3.84	89.9185
21	19	0.00	-1.79	-15.33	19.29	-15.33	-19.29	20.1447
21	20	0.00	-4.70	-18.65	-15.56	-18.65	15.56	20.0163
21	21	0.00	-8.16	1.04	0.26	1.04	-0.26	4.7918
21	22	0.00	11.16	-0.85	-0.55	-0.85	0.55	6.4960
21	23	0.00	-6.56	-29.93	-10.14	-29.93	10.14	26.0786
21	24	0.00	-0.06	10.26	-30.88	10.26	30.88	26.5687
21	25	0.00	-8.62	-37.62	-22.56	-37.62	22.56	36.1605
21	26	0.00	-2.20	-22.93	38.95	-22.93	-38.95	36.9261
21	27	0.00	71.51	-7.49	-2.41	-7.49	2.41	41.7832
21	28	0.00	44.92	-4.29	-2.46	-4.29	2.46	26.2470
21	29	0.00	-8.81	-30.32	-30.51	-30.32	30.51	35.4868
21	30	0.00	-3.52	-30.24	30.85	-30.24	-30.85	35.3306
22	0	0.00	12.29	75.09	145.20	75.09	-145.20	133.6589

22	1	0.00	6.19	-15.44	151.66	-15.44	-151.66	124.5212
22	2	0.00	-25.99	-40.33	108.46	-40.33	-108.46	95.6655
22	3	0.00	-22.80	-100.93	-49.13	-100.93	49.13	92.5942
22	4	0.00	-193.31	-26.42	6.96	-26.42	-6.96	113.8152
22	5	0.00	-18.34	-4.09	-38.24	-4.09	38.24	33.1381
22	6	0.00	-18.06	-60.02	-56.99	-60.02	56.99	68.3781
22	7	0.00	-17.89	-41.91	-122.33	-41.91	122.33	106.0852
22	8	0.00	24.37	4.69	-55.54	4.69	55.54	47.6350
22	9	0.00	-108.80	-43.61	-4.27	-43.61	4.27	72.2901
22	10	0.00	-128.73	-3.89	-0.13	-3.89	0.13	74.3902
22	11	0.00	85.02	-6.34	6.48	-6.34	-6.48	49.6413
22	12	0.00	10.94	11.57	113.29	11.57	-113.29	93.1963
22	13	0.00	-10.16	-49.56	-154.75	-49.56	154.75	132.8040
22	14	0.00	-23.69	-141.62	48.62	-141.62	-48.62	123.0196
22	15	0.00	10.86	-7.28	123.86	-7.28	-123.86	101.4996
22	16	0.00	-223.66	-80.92	53.12	-80.92	-53.12	151.3972
22	17	0.00	-24.93	47.23	99.41	47.23	-99.41	91.0083
22	18	0.00	25.73	106.76	-21.10	106.76	21.10	90.0886
22	19	0.00	-53.34	10.13	14.04	10.13	-14.04	33.8853
22	20	0.00	3.72	11.12	-6.94	11.12	6.94	10.9160
22	21	0.00	-2.83	-19.23	7.82	-19.23	-7.82	17.0284
22	22	0.00	-7.22	-25.82	-26.13	-25.82	26.13	30.2822
22	23	0.00	-9.43	-15.17	-9.46	-15.17	9.46	15.5795
22	24	0.00	-50.42	-2.60	17.70	-2.60	-17.70	32.5693
22	25	0.00	-3.54	4.39	12.20	4.39	-12.20	10.7820
22	26	0.00	-29.78	-8.45	4.64	-8.45	-4.64	18.9095
22	27	0.00	-0.08	-1.79	2.51	-1.79	-2.51	2.5176
22	28	0.00	2.77	36.39	-55.09	36.39	55.09	53.9319
22	29	0.00	-20.42	-4.79	-0.51	-4.79	0.51	12.4283
22	30	0.00	16.48	2.44	-6.18	2.44	6.18	10.9527
23	0	0.00	18.55	144.83	-75.25	144.83	75.25	133.6920
23	1	0.00	30.13	149.02	14.20	149.02	-14.20	123.4572
23	2	0.00	-23.32	-103.81	-44.45	-103.81	44.45	93.1816
23	3	0.00	-21.89	50.05	-105.78	50.05	105.78	96.3812
23	4	0.00	10.60	-7.56	-41.32	-7.56	41.32	34.8394
23	5	0.00	-176.54	57.80	2.73	57.80	-2.73	112.3432
23	6	0.00	-10.41	-56.17	63.09	-56.17	-63.09	69.2320
23	7	0.00	-21.15	-122.11	42.90	-122.11	-42.90	106.3796
23	8	0.00	-86.82	62.49	10.54	62.49	-10.54	72.0414
23	9	0.00	-28.24	9.91	-53.39	9.91	53.39	47.2402
23	10	0.00	82.46	-9.25	-16.66	-9.25	16.66	50.0862

23	11	0.00	122.76	-24.30	-6.20	-24.30	6.20	73.7742
23	12	0.00	22.66	109.79	-11.18	109.79	11.18	91.0515
23	13	0.00	26.69	148.37	-52.67	148.37	52.67	129.4706
23	14	0.00	-26.91	-45.20	-148.84	-45.20	148.84	127.9543
23	15	0.00	29.62	121.79	11.73	121.79	-11.73	101.3544
23	16	0.00	-54.25	-34.99	-99.24	-34.99	99.24	91.4491
23	17	0.00	189.26	-122.65	36.36	-122.65	-36.36	151.1616
23	18	0.00	-9.35	-20.62	-109.51	-20.62	109.51	91.1458
23	19	0.00	-0.10	-12.36	6.09	-12.36	-6.09	11.2506
23	20	0.00	56.68	0.06	9.86	0.06	-9.86	33.7000
23	21	0.00	3.41	7.68	19.39	7.68	-19.39	17.1419
23	22	0.00	-4.13	-26.24	25.92	-26.24	-25.92	30.2094
23	23	0.00	-49.26	13.75	-14.69	13.75	14.69	32.8444
23	24	0.00	2.13	-15.56	-9.06	-15.56	9.06	14.7528
23	25	0.00	25.67	-14.35	3.29	-14.35	-3.29	19.0826
23	26	0.00	-6.79	-2.96	-11.73	-2.96	11.73	10.6272
23	27	0.00	0.85	2.33	1.86	2.33	-1.86	2.4832
23	28	0.00	-13.55	-54.10	-36.56	-54.10	36.56	53.8841
23	29	0.00	-15.81	4.82	-4.17	4.82	4.17	10.5071
23	30	0.00	-17.79	6.92	3.02	6.92	-3.02	11.9791
24	0	0.00	385.80	-33.98	-9.25	-33.98	9.25	224.5900
24	1	0.00	7.16	0.50	3.40	0.50	-3.40	4.9962
24	2	0.00	-30.12	-116.05	-103.85	-116.05	103.85	128.3382
24	3	0.00	-14.49	-108.79	111.65	-108.79	-111.65	127.5564
24	4	0.00	18.31	83.18	55.38	83.18	-55.38	82.2739
24	5	0.00	2.16	56.13	-86.73	56.13	86.73	84.3603
24	6	0.00	180.94	-21.61	-7.89	-21.61	7.89	106.1411
24	7	0.00	60.12	-9.37	-4.38	-9.37	4.38	35.7229
24	8	0.00	-0.15	-1.36	4.89	-1.36	-4.89	4.1451
24	9	0.00	-5.43	-7.78	-2.68	-7.78	2.68	7.4141
24	10	0.00	25.31	111.27	87.35	111.27	-87.35	116.4226
24	11	0.00	-5.83	-87.86	112.92	-87.86	-112.92	116.8683
24	12	0.00	-41.54	6.18	3.63	6.18	-3.63	24.6868
24	13	0.00	18.39	33.20	194.00	33.20	-194.00	161.0535
24	14	0.00	-38.13	-202.74	33.88	-202.74	-33.88	169.2696
24	15	0.00	12.30	0.03	4.29	0.03	-4.29	7.9183
24	16	0.00	-5.90	-2.17	1.32	-2.17	-1.32	3.9880
24	17	0.00	0.72	-0.37	5.32	-0.37	-5.32	4.3741
24	18	0.00	-215.30	24.26	4.12	24.26	-4.12	125.9168
24	19	0.00	2.86	27.68	-14.03	27.68	14.03	25.3918
24	20	0.00	5.56	14.72	27.63	14.72	-27.63	25.7624

24	21	0.00	-7.45	0.06	0.88	0.06	-0.88	4.3611
24	22	0.00	0.01	-1.50	-0.18	-1.50	0.18	1.2335
24	23	0.00	1.55	0.97	35.61	0.97	-35.61	29.1000
24	24	0.00	-8.51	-36.30	1.71	-36.30	-1.71	30.0757
24	25	0.00	-2.07	-7.72	-13.41	-7.72	13.41	12.6904
24	26	0.00	-3.16	-13.97	7.94	-13.97	-7.94	13.2463
24	27	0.00	-6.25	0.45	0.22	0.45	-0.22	3.6315
24	28	0.00	4.94	0.33	-2.09	0.33	2.09	3.3345
24	29	0.00	1.00	17.09	-21.42	17.09	21.42	22.3813
24	30	0.00	-4.86	-20.62	-17.12	-20.62	17.12	22.0619
25	0	0.00	132.58	-13.71	-3.45	-13.71	3.45	77.4106
25	1	0.00	0.68	0.90	-0.53	0.90	0.53	0.9388
25	2	0.00	6.37	47.18	-51.26	47.18	51.26	57.0019
25	3	0.00	-12.92	-50.81	-45.52	-50.81	45.52	56.1972
25	4	0.00	-6.02	-36.87	-20.65	-36.87	20.65	34.6789
25	5	0.00	-1.99	-20.48	36.23	-20.48	-36.23	34.0002
25	6	0.00	112.83	-10.75	-3.34	-10.75	3.34	65.7877
25	7	0.00	-12.13	0.49	0.22	0.49	-0.22	7.0170
25	8	0.00	-0.51	-17.96	30.86	-17.96	-30.86	29.1551
25	9	0.00	-7.05	-31.89	-17.33	-31.89	17.33	29.9127
25	10	0.00	-23.41	-89.92	-88.44	-89.92	88.44	103.8629
25	11	0.00	12.31	87.93	-91.27	87.93	91.27	103.7229
25	12	0.00	33.75	-3.68	-0.23	-3.68	0.23	19.7168
25	13	0.00	-12.84	-13.75	-175.84	-13.75	175.84	144.2017
25	14	0.00	33.65	174.47	-16.27	174.47	16.27	144.3853
25	15	0.00	-17.25	2.67	-0.26	2.67	0.26	10.1973
25	16	0.00	-3.16	-7.81	-3.74	-7.81	3.74	7.3019
25	17	0.00	1.90	2.00	-8.95	2.00	8.95	7.5678
25	18	0.00	211.27	-20.86	-6.81	-20.86	6.81	123.2856
25	19	0.00	-0.38	-3.33	3.35	-3.33	-3.35	3.8630
25	20	0.00	-1.12	-3.41	-3.26	-3.41	3.26	3.9058
25	21	0.00	3.02	-0.41	-0.02	-0.41	0.02	1.7755
25	22	0.00	10.90	-1.08	-0.27	-1.08	0.27	6.3584
25	23	0.00	-0.36	-0.55	-11.47	-0.55	11.47	9.3783
25	24	0.00	2.11	11.29	-0.05	11.29	0.05	9.2985
25	25	0.00	-1.31	0.66	-21.69	0.66	21.69	17.7341
25	26	0.00	-4.60	-21.59	-0.68	-21.59	0.68	17.8357
25	27	0.00	14.57	-1.73	-0.56	-1.73	0.56	8.5420
25	28	0.00	4.93	-0.95	-0.35	-0.95	0.35	2.9639
25	29	0.00	-3.70	-11.36	-23.82	-11.36	23.82	21.6531
25	30	0.00	-4.05	-23.79	11.57	-23.79	-11.57	21.7260
26	0	0.00	-2.69	-20.52	0.55	-20.52	-0.55	16.8323
26	1	0.00	-35.66	-169.74	-35.35	-169.74	35.35	143.0550

26	2	0.00	-11.20	-31.55	-49.18	-31.55	49.18	48.1442
26	3	0.00	13.32	48.81	-33.78	48.81	33.78	49.0728
26	4	0.00	-7.83	35.38	5.35	35.38	-5.35	29.5637
26	5	0.00	141.15	-17.91	27.96	-17.91	-27.96	85.8844
26	6	0.00	18.55	71.70	45.35	71.70	-45.35	70.0931
26	7	0.00	-12.67	-52.06	-48.69	-52.06	48.69	58.6585
26	8	0.00	-145.08	-6.95	48.53	-6.95	-48.53	92.8352
26	9	0.00	60.88	37.95	18.37	37.95	-18.37	49.1992
26	10	0.00	18.64	-6.37	-10.69	-6.37	10.69	14.8004
26	11	0.00	50.84	-13.65	1.07	-13.65	-1.07	31.4093
26	12	0.00	11.31	57.75	-23.48	57.75	23.48	51.3182
26	13	0.00	-31.25	25.60	-30.41	25.60	30.41	37.1341
26	14	0.00	-9.35	-27.75	-21.79	-27.75	21.79	29.3096
26	15	0.00	10.19	35.42	27.60	35.42	-27.60	37.1327
26	16	0.00	-29.71	-29.27	-23.13	-29.27	23.13	34.9578
26	17	0.00	43.56	-29.54	30.66	-29.54	-30.66	42.9060
26	18	0.00	0.46	3.74	-24.58	3.74	24.58	20.3022
26	19	0.00	28.33	-1.46	1.48	-1.46	-1.48	16.4442
26	20	0.00	-2.74	2.73	-1.21	2.73	1.21	2.9064
26	21	0.00	-0.49	-2.16	-4.65	-2.16	4.65	4.1959
26	22	0.00	6.95	33.29	4.50	33.29	-4.50	27.7203
26	23	0.00	-48.96	21.64	17.67	21.64	-17.67	36.3232
26	24	0.00	3.27	15.72	-16.90	15.72	16.90	18.9398
26	25	0.00	21.00	4.51	-1.98	4.51	1.98	12.7739
26	26	0.00	7.89	0.39	6.43	0.39	-6.43	6.9581
26	27	0.00	-2.23	-6.78	-12.41	-6.78	12.41	11.6179
26	28	0.00	17.39	64.51	54.04	64.51	-54.04	69.4409
26	29	0.00	-3.91	6.58	12.14	6.58	-12.14	11.4984
26	30	0.00	-40.80	-8.07	9.75	-8.07	-9.75	25.7230
27	0	0.00	0.12	1.38	21.29	1.38	-21.29	17.4198
27	1	0.00	3.61	-36.19	170.44	-36.19	-170.44	142.2815
27	2	0.00	2.23	51.96	-33.50	51.96	33.50	50.4947
27	3	0.00	8.26	33.94	48.38	33.94	-48.38	48.4882
27	4	0.00	-138.57	9.90	35.03	9.90	-35.03	85.3461
27	5	0.00	-21.38	-31.68	-3.39	-31.68	3.39	28.7943
27	6	0.00	5.07	45.44	-74.08	45.44	74.08	71.0187
27	7	0.00	-7.66	-48.35	54.04	-48.35	-54.04	59.3710
27	8	0.00	41.56	-48.70	-22.47	-48.70	22.47	49.9347
27	9	0.00	143.07	-34.70	40.73	-34.70	-40.73	93.4435
27	10	0.00	55.03	4.36	-4.58	4.36	4.58	32.1884
27	11	0.00	-21.52	-1.72	-8.27	-1.72	8.27	14.2105
27	12	0.00	-9.55	-23.35	-58.77	-23.35	58.77	51.9277
27	13	0.00	4.78	30.05	22.91	30.05	-22.91	30.9763
27	14	0.00	35.64	17.57	-31.12	17.57	31.12	35.7049

27	15	0.00	1.65	26.01	-35.48	26.01	35.48	35.9325
27	16	0.00	49.81	20.83	-35.68	20.83	35.68	44.3281
27	17	0.00	14.36	-35.45	-24.57	-35.45	24.57	36.1800
27	18	0.00	-6.15	-24.04	-4.45	-24.04	4.45	20.2754
27	19	0.00	-3.45	-2.17	1.19	-2.17	-1.19	2.8374
27	20	0.00	-27.63	3.97	2.94	3.97	-2.94	16.4542
27	21	0.00	-0.79	-4.45	2.04	-4.45	-2.04	4.0229
27	22	0.00	-0.63	4.94	-33.24	4.94	33.24	27.4408
27	23	0.00	-0.97	-16.48	16.71	-16.48	-16.71	19.1709
27	24	0.00	57.31	11.56	14.76	11.56	-14.76	36.4574
27	25	0.00	-6.72	2.30	6.68	2.30	-6.68	6.9518
27	26	0.00	18.72	-8.32	0.54	-8.32	-0.54	12.7732
27	27	0.00	-2.05	-12.59	7.17	-12.59	-7.17	11.8889
27	28	0.00	7.00	53.81	-64.72	53.81	64.72	68.8413
27	29	0.00	36.99	-17.39	7.54	-17.39	-7.54	26.3742
27	30	0.00	-7.96	-5.88	-14.27	-5.88	14.27	13.4136
28	0	0.00	-0.82	-67.64	211.75	-67.64	-211.75	181.5004
28	1	0.00	-8.85	-23.22	-69.48	-23.22	69.48	60.0322
28	2	0.00	27.61	76.02	-10.22	76.02	10.22	64.6253
28	3	0.00	20.96	8.61	77.35	8.61	-77.35	64.6880
28	4	0.00	67.20	-24.63	4.77	-24.63	-4.77	43.8734
28	5	0.00	89.28	-15.98	-21.74	-15.98	21.74	56.0562
28	6	0.00	5.19	37.78	-13.46	37.78	13.46	32.8833
28	7	0.00	-45.53	-216.80	-35.04	-216.80	35.04	181.2301
28	8	0.00	40.64	-74.87	-22.02	-74.87	22.02	67.9029
28	9	0.00	85.67	-28.53	66.20	-28.53	-66.20	76.8812
28	10	0.00	59.78	-8.05	-24.60	-8.05	24.60	40.4705
28	11	0.00	170.62	-40.73	-2.41	-40.73	2.41	103.9882
28	12	0.00	5.73	37.18	-25.08	37.18	25.08	36.7675
28	13	0.00	60.86	105.61	-42.44	105.61	42.44	99.3532
28	14	0.00	-9.64	-43.08	-109.03	-43.08	109.03	95.8815
28	15	0.00	22.71	83.67	28.95	83.67	-28.95	73.4695
28	16	0.00	-44.44	-41.97	-67.60	-41.97	67.60	69.8508
28	17	0.00	145.37	-85.61	42.48	-85.61	-42.48	114.6003
28	18	0.00	-0.22	38.70	-82.23	38.70	82.23	74.2046
28	19	0.00	16.04	-1.54	-2.20	-1.54	2.20	9.5167
28	20	0.00	-22.57	0.58	0.70	0.58	-0.70	13.0519
28	21	0.00	-4.98	-22.40	-1.52	-22.40	1.52	18.5557
28	22	0.00	2.38	12.07	0.69	12.07	-0.69	9.9664
28	23	0.00	33.72	-27.34	10.15	-27.34	-10.15	30.7573
28	24	0.00	-5.13	11.72	23.78	11.72	-23.78	21.8480
28	25	0.00	23.52	-4.84	-5.50	-4.84	5.50	14.8385
28	26	0.00	-17.25	6.75	-2.20	6.75	2.20	11.5234

28	27	0.00	-7.94	-36.58	-11.06	-36.58	11.06	31.5377
28	28	0.00	8.05	15.71	62.11	15.71	-62.11	52.5158
28	29	0.00	21.03	-5.38	20.11	-5.38	-20.11	20.8884
28	30	0.00	-39.09	-17.61	-1.38	-17.61	1.38	26.7835
29	0	0.00	45.37	209.88	67.20	209.88	-67.20	181.8327
29	1	0.00	-11.73	-67.37	24.56	-67.37	-24.56	58.9390
29	2	0.00	-7.21	10.59	78.04	10.59	-78.04	64.4380
29	3	0.00	-1.49	-78.85	8.88	-78.85	-8.88	64.7935
29	4	0.00	-94.27	1.32	-17.34	1.32	17.34	56.2485
29	5	0.00	71.32	12.20	-8.57	12.20	8.57	42.9384
29	6	0.00	-3.59	-14.01	-37.45	-14.01	37.45	32.7132
29	7	0.00	6.03	-35.82	220.48	-35.82	-220.48	182.4147
29	8	0.00	84.85	12.07	-70.47	12.07	70.47	76.2079
29	9	0.00	-71.58	-62.67	-17.84	-62.67	17.84	67.3679
29	10	0.00	180.00	6.02	-7.26	6.02	7.26	104.2080
29	11	0.00	-64.03	3.60	-21.03	3.60	21.03	40.8668
29	12	0.00	-7.93	-26.31	-38.46	-26.31	38.46	38.3217
29	13	0.00	19.98	39.77	109.29	39.77	-109.29	95.6576
29	14	0.00	-23.57	112.40	-40.36	112.40	40.36	98.4563
29	15	0.00	-4.13	24.74	-84.64	24.74	84.64	72.0395
29	16	0.00	166.64	55.11	-54.39	55.11	54.39	115.1226
29	17	0.00	17.15	-50.81	-69.04	-50.81	69.04	70.6882
29	18	0.00	-18.01	-80.21	-38.59	-80.21	38.59	73.4167
29	19	0.00	-22.33	3.80	0.84	3.80	-0.84	13.2781
29	20	0.00	-15.84	1.52	-1.36	1.52	1.36	9.2956
29	21	0.00	1.21	-1.57	23.06	-1.57	-23.06	18.8849
29	22	0.00	-1.14	0.00	-11.99	0.00	11.99	9.8119
29	23	0.00	-12.56	-10.09	-23.27	-10.09	23.27	21.9420
29	24	0.00	-41.65	-20.10	12.26	-20.10	-12.26	30.7861
29	25	0.00	18.98	3.21	-3.43	3.21	3.43	11.6100
29	26	0.00	25.11	0.36	3.81	0.36	-3.81	14.8302
29	27	0.00	0.38	-10.98	37.06	-10.98	-37.06	31.5603
29	28	0.00	11.23	60.15	-16.57	60.15	16.57	51.3527
29	29	0.00	29.98	-25.47	-4.10	-25.47	4.10	27.2633
29	30	0.00	19.89	2.57	-22.86	2.57	22.86	22.0150
30	0	0.00	22.09	-1.96	-0.36	-1.96	0.36	12.8570
30	1	0.00	-10.19	2.81	1.13	2.81	-1.13	6.3818
30	2	0.00	16.63	41.15	132.95	41.15	-132.95	114.0389
30	3	0.00	22.76	130.79	-43.64	130.79	43.64	113.3416
30	4	0.00	10.37	57.90	28.93	57.90	-28.93	53.1860
30	5	0.00	1.33	29.72	-58.22	29.72	58.22	53.3775
30	6	0.00	-146.23	12.49	3.89	12.49	-3.89	85.0989
30	7	0.00	6.15	-0.85	0.39	-0.85	-0.39	3.6319
30	8	0.00	1.10	-5.50	26.63	-5.50	-26.63	22.2113

30	9	0.00	-6.96	-26.76	-6.19	-26.76	6.19	22.7835
30	10	0.00	-9.63	-36.90	-41.59	-36.90	41.59	45.7362
30	11	0.00	5.79	41.35	-37.51	41.35	37.51	45.7062
30	12	0.00	74.91	-7.51	-2.00	-7.51	2.00	43.7123
30	13	0.00	-5.37	-17.57	-44.40	-17.57	44.40	39.1108
30	14	0.00	7.56	45.26	-18.32	45.26	18.32	40.1054
30	15	0.00	-14.98	1.58	0.03	1.58	-0.03	8.7444
30	16	0.00	-0.02	0.83	-5.49	0.83	5.49	4.5335
30	17	0.00	1.52	4.95	-0.01	4.95	0.01	4.1358
30	18	0.00	34.09	-3.52	-1.12	-3.52	1.12	19.9116
30	19	0.00	-0.57	-1.34	0.14	-1.34	-0.14	1.1482
30	20	0.00	0.30	-0.10	-1.50	-0.10	1.50	1.2396
30	21	0.00	3.47	-0.35	0.09	-0.35	-0.09	2.0250
30	22	0.00	18.82	-1.89	-0.70	-1.89	0.70	10.9896
30	23	0.00	0.36	8.72	-20.84	8.72	20.84	18.4465
30	24	0.00	4.09	20.01	8.56	20.01	-8.56	17.9265
30	25	0.00	-1.33	-4.43	-12.73	-4.43	12.73	11.0321
30	26	0.00	-1.92	-12.53	4.25	-12.53	-4.25	10.8599
30	27	0.00	-38.67	3.64	1.37	3.64	-1.37	22.5508
30	28	0.00	-17.56	1.12	0.30	1.12	-0.30	10.1824
30	29	0.00	-2.48	-17.25	14.66	-17.25	-14.66	18.5392
30	30	0.00	3.86	14.55	17.08	14.55	-17.08	18.4550

Table S4. The TDMs of Alq_3 calculated at the level of B3LYP/def2-SVP.

State	μ_X/a.u.	μ_Y/a.u.	μ_Z/a.u.	u/debye
1	-0.23502	-0.05789	-0.08222	0.649778
2	0.31573	0.2522	0.03001	1.030028
3	-0.55753	-0.72673	0.07603	2.336373
4	0.4992	-0.48615	0.23295	1.86767
5	0.43305	0.06924	-0.0007	1.114805
6	0.43649	0.10109	0.13283	1.187933
7	-0.28424	-0.35033	0.0751	1.162559
8	-0.04814	0.39963	-0.10608	1.058126
9	-0.03936	-0.07154	0.08299	0.296009
10	0.16951	-0.2791	0.1285	0.892057
11	0.04746	-0.1309	-0.36876	1.00198
12	-0.25409	-0.05021	0.00781	0.658667
13	0.09857	-0.06913	0.44409	1.169624
14	-0.27162	0.28709	-0.02546	1.006741
15	-0.00432	-0.06384	-0.30511	0.792476
16	0.0775	0.01633	0.01576	0.205258
17	0.08722	0.07863	0.00786	0.299158

18	-0.01903	-0.00759	0.07955	0.208847
19	0.01578	0.25693	-0.05649	0.669903
20	-0.01763	0.02202	-0.23452	0.600418
21	0.00341	0.02441	0.02132	0.082762
22	0.05306	-0.09645	0.02836	0.288939
23	0.02393	0.03603	0.00119	0.109925
24	0.05037	0.00246	-0.00321	0.128365
25	-0.10998	-0.09001	-0.28657	0.813122
26	-0.01305	-0.04431	-0.15	0.39894
27	0.04088	0.06806	-0.04622	0.233532
28	0.07674	-0.12634	-0.08879	0.438302
29	0.08388	0.00909	-0.03093	0.228356
30	-0.0155	-0.11078	-0.05865	0.321038

Table S5. The SOCs of Alq_3 calculated at the level of B3LYP/def2-SVP.

Roots		<Tn|HSO|Sn> elements (Rm, Im) /cm^{-1}						SOC/cm^{-1}
T_n	S_n	Ms=0	Ms=0	Ms=1	Ms=-1	Ms=1	Ms=1	
1	0	0.00	0.20	0.06	-0.07	0.06	0.07	0.14
1	1	0.00	-0.40	0.35	0.79	0.35	-0.79	0.74
1	2	0.00	-0.12	0.19	0.21	0.19	-0.21	0.24
1	3	0.00	-0.04	0.03	-0.09	0.03	0.09	0.08
1	4	0.00	0.02	0.20	-0.01	0.2	0.01	0.16
1	5	0.00	-0.33	-0.43	0.5	-0.43	-0.5	0.57
1	6	0.00	-0.45	-0.45	0.92	-0.45	-0.92	0.88
1	7	0.00	-0.78	-0.65	1.64	-0.65	-1.64	1.51
1	8	0.00	0.06	-0.70	0.58	-0.7	-0.58	0.74
1	9	0.00	-0.52	0.50	0.2	0.5	-0.2	0.53
1	10	0.00	-0.01	-0.04	-0.1	-0.04	0.1	0.09
1	11	0.00	-0.01	-0.04	-0.05	-0.04	0.05	0.05
1	12	0.00	-0.03	-0.04	0.09	-0.04	-0.09	0.08
1	13	0.00	0.01	0.01	0	0.01	0	0.01
1	14	0.00	-0.01	-0.01	-0.05	-0.01	0.05	0.04
1	15	0.00	0.00	0.02	0.03	0.02	-0.03	0.03
1	16	0.00	-0.02	0.00	0.02	0	-0.02	0.02
1	17	0.00	0.05	0.12	-0.15	0.12	0.15	0.16
1	18	0.00	0.02	-0.06	-0.03	-0.06	0.03	0.06
1	19	0.00	-0.07	-0.02	-0.01	-0.02	0.01	0.04
1	20	0.00	-0.01	-0.05	0.04	-0.05	-0.04	0.05
1	21	0.00	0.11	0.65	-0.2	0.65	0.2	0.56
1	22	0.00	0.13	0.34	-0.08	0.34	0.08	0.29
1	23	0.00	0.88	2.91	-0.75	2.91	0.75	2.51

1	24	0.00	-3.05	-13.01	4.36	-13.01	-4.36	11.34
1	25	0.00	-0.01	-0.03	0.05	-0.03	-0.05	0.05
1	26	0.00	-0.07	-0.28	-0.21	-0.28	0.21	0.29
1	27	0.00	0.46	2.84	-1.07	2.84	1.07	2.49
1	28	0.00	0.15	0.64	-0.33	0.64	0.33	0.59
1	29	0.00	0.07	0.40	-0.23	0.4	0.23	0.38
1	30	0.00	0.15	1.39	-1.18	1.39	1.18	1.49
2	0	0.00	-0.04	0.06	0.03	0.06	-0.03	0.06
2	1	0.00	0.71	-0.20	-0.62	-0.2	0.62	0.67
2	2	0.00	0.65	-0.16	-0.53	-0.16	0.53	0.59
2	3	0.00	-0.23	0.19	-0.03	0.19	0.03	0.21
2	4	0.00	-0.17	-0.08	-0.09	-0.08	0.09	0.14
2	5	0.00	-0.37	0.18	-0.02	0.18	0.02	0.26
2	6	0.00	0.41	-0.05	-0.16	-0.05	0.16	0.27
2	7	0.00	0.42	-0.31	-0.35	-0.31	0.35	0.45
2	8	0.00	-0.96	0.36	0.29	0.36	-0.29	0.67
2	9	0.00	-0.43	-0.38	-0.46	-0.38	0.46	0.55
2	10	0.00	0.02	-0.04	-0.04	-0.04	0.04	0.05
2	11	0.00	0.16	0.04	0.02	0.04	-0.02	0.10
2	12	0.00	0.04	-0.03	-0.02	-0.03	0.02	0.04
2	13	0.00	-0.21	-0.08	-0.05	-0.08	0.05	0.14
2	14	0.00	-0.01	-0.05	-0.02	-0.05	0.02	0.04
2	15	0.00	0.13	0.05	0.12	0.05	-0.12	0.13
2	16	0.00	-0.16	0.20	-0.03	0.2	0.03	0.19
2	17	0.00	-0.02	-0.02	0	-0.02	0	0.02
2	18	0.00	0.47	0.08	0.11	0.08	-0.11	0.29
2	19	0.00	0.03	0.12	-0.06	0.12	0.06	0.11
2	20	0.00	-1.31	-0.89	-0.78	-0.89	0.78	1.23
2	21	0.00	-7.53	-7.76	-4.52	-7.76	4.52	8.52
2	22	0.00	-0.98	-0.52	-0.68	-0.52	0.68	0.90
2	23	0.00	-9.26	-5.60	-6.32	-5.6	6.32	8.72
2	24	0.00	-3.00	-2.12	-1.83	-2.12	1.83	2.87
2	25	0.00	1.15	0.86	0.8	0.86	-0.8	1.17
2	26	0.00	-0.08	-0.09	-0.02	-0.09	0.02	0.09
2	27	0.00	-1.78	-1.91	-0.74	-1.91	0.74	1.96
2	28	0.00	0.02	0.00	-0.03	0	0.03	0.03
2	29	0.00	-0.06	0.54	-0.85	0.54	0.85	0.82
2	30	0.00	1.53	1.25	0.9	1.25	-0.9	1.54
3	0	0.00	0.37	-0.04	0.24	-0.04	-0.24	0.29
3	1	0.00	0.69	0.47	-0.98	0.47	0.98	0.97
3	2	0.00	-0.93	0.56	-0.58	0.56	0.58	0.85
3	3	0.00	-0.17	0.51	-0.85	0.51	0.85	0.82
3	4	0.00	0.11	-0.17	0.39	-0.17	-0.39	0.35
3	5	0.00	0.27	0.34	-1.03	0.34	1.03	0.90

3	6	0.00	0.67	0.27	-0.77	0.27	0.77	0.77
3	7	0.00	-0.25	-0.06	0	-0.06	0	0.15
3	8	0.00	0.64	-0.06	-0.54	-0.06	0.54	0.58
3	9	0.00	0.22	0.09	0.02	0.09	-0.02	0.15
3	10	0.00	-0.18	-0.05	0.02	-0.05	-0.02	0.11
3	11	0.00	0.25	0.03	-0.02	0.03	0.02	0.15
3	12	0.00	0.10	0.03	0.09	0.03	-0.09	0.10
3	13	0.00	0.00	0.05	-0.07	0.05	0.07	0.07
3	14	0.00	0.00	-0.02	-0.02	-0.02	0.02	0.02
3	15	0.00	0.00	-0.13	0.07	-0.13	-0.07	0.12
3	16	0.00	0.05	-0.06	0.05	-0.06	-0.05	0.07
3	17	0.00	0.07	0.05	-0.02	0.05	0.02	0.06
3	18	0.00	-0.27	0.16	-0.37	0.16	0.37	0.36
3	19	0.00	-0.10	0.05	-0.13	0.05	0.13	0.13
3	20	0.00	0.40	-0.02	0.51	-0.02	-0.51	0.48
3	21	0.00	6.80	-1.27	6.68	-1.27	-6.68	6.80
3	22	0.00	-0.48	0.61	-0.83	0.61	0.83	0.89
3	23	0.00	-5.46	4.51	-5.92	4.51	5.92	6.85
3	24	0.00	-0.14	0.29	-0.02	0.29	0.02	0.25
3	25	0.00	-0.02	-0.20	0.06	-0.2	-0.06	0.17
3	26	0.00	0.33	-0.23	0.37	-0.23	-0.37	0.40
3	27	0.00	4.51	-2.42	4.97	-2.42	-4.97	5.21
3	28	0.00	0.02	0.02	0.03	0.02	-0.03	0.03
3	29	0.00	-3.12	4.56	-4.78	4.56	4.78	5.69
3	30	0.00	-1.95	0.14	-0.93	0.14	0.93	1.36
4	0	0.00	0.01	0.11	0.95	0.11	-0.95	0.78
4	1	0.00	-0.28	-0.29	0.46	-0.29	-0.46	0.47
4	2	0.00	0.82	0.98	-2.13	0.98	2.13	1.97
4	3	0.00	-1.40	0.35	1.02	0.35	-1.02	1.20
4	4	0.00	-0.08	0.61	0.05	0.61	-0.05	0.50
4	5	0.00	-1.02	-0.28	0.14	-0.28	-0.14	0.64
4	6	0.00	-0.09	0.09	0.06	0.09	-0.06	0.10
4	7	0.00	0.11	-0.03	-0.12	-0.03	0.12	0.12
4	8	0.00	-0.10	0.02	0.04	0.02	-0.04	0.07
4	9	0.00	-0.02	-0.04	0	-0.04	0	0.03
4	10	0.00	-0.24	-0.03	0.04	-0.03	-0.04	0.14
4	11	0.00	0.01	-0.09	0.04	-0.09	-0.04	0.08
4	12	0.00	-0.17	0.15	-0.07	0.15	0.07	0.17
4	13	0.00	-0.15	0.02	-0.01	0.02	0.01	0.09
4	14	0.00	-0.11	-0.11	-0.05	-0.11	0.05	0.12
4	15	0.00	-0.06	0.07	-0.04	0.07	0.04	0.07
4	16	0.00	0.02	0.03	-0.01	0.03	0.01	0.03
4	17	0.00	0.01	-0.03	0.03	-0.03	-0.03	0.04
4	18	0.00	-0.14	-0.16	-0.05	-0.16	0.05	0.16

4	19	0.00	-0.06	-0.09	-0.01	-0.09	0.01	0.08
4	20	0.00	0.10	0.05	0.36	0.05	-0.36	0.30
4	21	0.00	2.91	5.99	-0.12	5.99	0.12	5.17
4	22	0.00	0.07	-0.24	0.33	-0.24	-0.33	0.34
4	23	0.00	-0.95	-4.30	2.55	-4.3	-2.55	4.12
4	24	0.00	-1.02	-1.37	0.39	-1.37	-0.39	1.30
4	25	0.00	0.74	1.46	-0.54	1.46	0.54	1.34
4	26	0.00	-0.26	-0.19	-0.05	-0.19	0.05	0.22
4	27	0.00	-3.97	-3.98	-0.21	-3.98	0.21	3.98
4	28	0.00	-0.05	0.17	-0.2	0.17	0.2	0.22
4	29	0.00	0.50	12.75	-6.81	12.75	6.81	11.81
4	30	0.00	0.75	-0.74	1.42	-0.74	-1.42	1.38
5	0	0.00	2.48	-0.24	-1.3	-0.24	1.3	1.79
5	1	0.00	-0.37	1.06	-1.63	1.06	1.63	1.60
5	2	0.00	0.21	-0.03	-0.03	-0.03	0.03	0.13
5	3	0.00	0.11	-0.17	0.28	-0.17	-0.28	0.27
5	4	0.00	0.73	0.07	-0.62	0.07	0.62	0.66
5	5	0.00	0.20	-0.38	0.4	-0.38	-0.4	0.47
5	6	0.00	0.82	-0.83	0.73	-0.83	-0.73	1.02
5	7	0.00	-0.35	0.02	-0.85	0.02	0.85	0.72
5	8	0.00	0.37	-0.42	-0.24	-0.42	0.24	0.45
5	9	0.00	0.19	-0.06	0.15	-0.06	-0.15	0.17
5	10	0.00	0.11	-0.03	0.08	-0.03	-0.08	0.09
5	11	0.00	0.14	0.01	0.03	0.01	-0.03	0.08
5	12	0.00	0.11	0.05	-0.04	0.05	0.04	0.08
5	13	0.00	-0.12	0.03	-0.12	0.03	0.12	0.12
5	14	0.00	-0.01	0.08	-0.07	0.08	0.07	0.09
5	15	0.00	0.04	-0.09	-0.03	-0.09	0.03	0.08
5	16	0.00	0.05	-0.03	0.01	-0.03	-0.01	0.04
5	17	0.00	0.04	-0.12	0.17	-0.12	-0.17	0.17
5	18	0.00	-0.12	0.34	-0.46	0.34	0.46	0.47
5	19	0.00	-0.06	0.08	-0.11	0.08	0.11	0.12
5	20	0.00	0.22	-0.33	0.42	-0.33	-0.42	0.45
5	21	0.00	3.56	-5.70	6.5	-5.7	-6.5	7.35
5	22	0.00	0.27	0.09	0.25	0.09	-0.25	0.27
5	23	0.00	-0.13	3.71	-1.78	3.71	1.78	3.36
5	24	0.00	-1.62	1.51	-2.03	1.51	2.03	2.27
5	25	0.00	0.64	-1.18	1.29	-1.18	-1.29	1.47
5	26	0.00	-0.48	0.17	-0.49	0.17	0.49	0.51
5	27	0.00	-6.21	3.10	-6.9	3.1	6.9	7.14
5	28	0.00	-0.28	-0.02	-0.15	-0.02	0.15	0.20
5	29	0.00	-5.11	-2.09	-2.92	-2.09	2.92	4.16
5	30	0.00	1.89	0.11	0.36	0.11	-0.36	1.13
6	0	0.00	1.09	-0.63	0.97	-0.63	-0.97	1.13

6	1	0.00	1.14	0.27	-0.65	0.27	0.65	0.87
6	2	0.00	0.80	-0.11	0.08	-0.11	-0.08	0.48
6	3	0.00	-0.28	-0.78	1.05	-0.78	-1.05	1.08
6	4	0.00	0.37	0.18	-0.57	0.18	0.57	0.53
6	5	0.00	-0.02	-0.05	0.36	-0.05	-0.36	0.30
6	6	0.00	0.96	0.67	-1.7	0.67	1.7	1.59
6	7	0.00	-0.20	-0.83	0.69	-0.83	-0.69	0.89
6	8	0.00	-0.70	0.20	0.29	0.2	-0.29	0.50
6	9	0.00	-0.48	0.37	0.16	0.37	-0.16	0.43
6	10	0.00	-0.09	-0.02	-0.05	-0.02	0.05	0.07
6	11	0.00	-0.07	-0.06	0.06	-0.06	-0.06	0.08
6	12	0.00	0.04	0.02	0	0.02	0	0.03
6	13	0.00	-0.03	-0.04	-0.05	-0.04	0.05	0.06
6	14	0.00	-0.06	-0.12	0.13	-0.12	-0.13	0.15
6	15	0.00	0.03	-0.09	0.06	-0.09	-0.06	0.09
6	16	0.00	0.03	0.01	0	0.01	0	0.02
6	17	0.00	0.05	0.02	-0.03	0.02	0.03	0.04
6	18	0.00	-0.04	0.08	-0.14	0.08	0.14	0.13
6	19	0.00	-0.07	0.00	0.01	0	-0.01	0.04
6	20	0.00	0.14	-0.03	0.04	-0.03	-0.04	0.09
6	21	0.00	1.62	-0.52	1.83	-0.52	-1.83	1.81
6	22	0.00	-0.17	-0.65	0.34	-0.65	-0.34	0.61
6	23	0.00	-1.07	-3.79	1.04	-3.79	-1.04	3.27
6	24	0.00	-0.65	1.37	-1.25	1.37	1.25	1.56
6	25	0.00	0.37	-0.15	0.23	-0.15	-0.23	0.31
6	26	0.00	-0.02	0.73	-0.42	0.73	0.42	0.69
6	27	0.00	-0.37	8.84	-4.91	8.84	4.91	8.26
6	28	0.00	-0.03	0.35	-0.26	0.35	0.26	0.36
6	29	0.00	-0.69	4.78	-3.21	4.78	3.21	4.72
6	30	0.00	0.51	-2.63	3.39	-2.63	-3.39	3.52
7	0	0.00	-2.21	0.75	1.34	0.75	-1.34	1.79
7	1	0.00	0.36	-0.08	-0.3	-0.08	0.3	0.33
7	2	0.00	0.13	0.02	-0.02	0.02	0.02	0.08
7	3	0.00	0.99	-0.17	-0.64	-0.17	0.64	0.79
7	4	0.00	0.91	-0.15	-0.18	-0.15	0.18	0.56
7	5	0.00	0.71	-0.30	-0.16	-0.3	0.16	0.50
7	6	0.00	0.78	-0.13	-0.52	-0.13	0.52	0.63
7	7	0.00	0.03	0.09	-0.12	0.09	0.12	0.12
7	8	0.00	-0.38	0.10	0.04	0.1	-0.04	0.24
7	9	0.00	-0.09	0.30	-0.25	0.3	0.25	0.32
7	10	0.00	-0.12	0.07	0.06	0.07	-0.06	0.10
7	11	0.00	-0.07	0.06	0.1	0.06	-0.1	0.10
7	12	0.00	-0.07	0.00	-0.05	0	0.05	0.06
7	13	0.00	-0.09	-0.01	0.06	-0.01	-0.06	0.07

7	14	0.00	0.00	-0.01	0.12	-0.01	-0.12	0.10
7	15	0.00	0.19	0.01	0.08	0.01	-0.08	0.13
7	16	0.00	0.01	0.04	0.01	0.04	-0.01	0.03
7	17	0.00	-0.05	0.00	-0.02	0	0.02	0.03
7	18	0.00	0.16	0.06	0.06	0.06	-0.06	0.12
7	19	0.00	0.04	-0.07	0.06	-0.07	-0.06	0.08
7	20	0.00	-0.15	-0.15	-0.09	-0.15	0.09	0.17
7	21	0.00	-1.93	-2.08	-1.58	-2.08	1.58	2.41
7	22	0.00	0.50	0.12	0.2	0.12	-0.2	0.35
7	23	0.00	0.45	0.92	0.78	0.92	-0.78	1.02
7	24	0.00	-0.89	-1.77	-0.67	-1.77	0.67	1.63
7	25	0.00	0.01	-0.11	-0.1	-0.11	0.1	0.12
7	26	0.00	-0.53	-0.50	-0.42	-0.5	0.42	0.61
7	27	0.00	-3.62	-2.84	-3.02	-2.84	3.02	3.98
7	28	0.00	0.19	0.09	0.1	0.09	-0.1	0.16
7	29	0.00	-0.97	-1.01	-1.28	-1.01	1.28	1.44
7	30	0.00	-11.56	-10.23	-7.43	-10.23	7.43	12.29
8	0	0.00	0.65	0.41	-1.71	0.41	1.71	1.48
8	1	0.00	-0.07	0.16	0.3	0.16	-0.3	0.28
8	2	0.00	0.27	-0.33	-0.9	-0.33	0.9	0.80
8	3	0.00	-0.26	-0.89	1.34	-0.89	-1.34	1.32
8	4	0.00	0.05	-0.15	0.36	-0.15	-0.36	0.32
8	5	0.00	0.55	0.87	-1.54	0.87	1.54	1.48
8	6	0.00	0.19	-0.01	0.1	-0.01	-0.1	0.14
8	7	0.00	-0.08	-0.35	0.45	-0.35	-0.45	0.47
8	8	0.00	-0.30	-0.16	0.57	-0.16	-0.57	0.51
8	9	0.00	0.29	-0.09	-0.44	-0.09	0.44	0.40
8	10	0.00	-0.03	-0.07	0.04	-0.07	-0.04	0.07
8	11	0.00	0.01	0.08	0.06	0.08	-0.06	0.08
8	12	0.00	-0.03	-0.02	0.17	-0.02	-0.17	0.14
8	13	0.00	-0.03	-0.05	0.09	-0.05	-0.09	0.09
8	14	0.00	-0.03	0.12	-0.17	0.12	0.17	0.17
8	15	0.00	0.01	-0.03	0.02	-0.03	-0.02	0.03
8	16	0.00	-0.03	0.00	0.04	0	-0.04	0.04
8	17	0.00	0.00	-0.02	0.07	-0.02	-0.07	0.06
8	18	0.00	0.02	0.00	0.06	0	-0.06	0.05
8	19	0.00	0.01	0.00	0	0	0	0.01
8	20	0.00	-0.04	0.02	-0.11	0.02	0.11	0.09
8	21	0.00	-0.52	-0.31	-0.55	-0.31	0.55	0.60
8	22	0.00	0.20	-0.06	0.15	-0.06	-0.15	0.18
8	23	0.00	1.16	-0.61	1.34	-0.61	-1.34	1.38
8	24	0.00	-4.22	2.79	-4.56	2.79	4.56	5.00
8	25	0.00	0.09	0.05	0.02	0.05	-0.02	0.07
8	26	0.00	-0.29	0.28	-0.41	0.28	0.41	0.44

8	27	0.00	0.53	-1.91	1.01	-1.91	-1.01	1.79
8	28	0.00	-0.55	-0.08	-0.3	-0.08	0.3	0.41
8	29	0.00	-0.04	-0.26	-0.15	-0.26	0.15	0.25
8	30	0.00	-1.66	-0.25	-2.17	-0.25	2.17	2.02
9	0	0.00	0.35	1.98	1.2	1.98	-1.2	1.90
9	1	0.00	-0.13	0.08	0.16	0.08	-0.16	0.16
9	2	0.00	-0.11	0.04	-0.01	0.04	0.01	0.07
9	3	0.00	0.32	-0.44	0.02	-0.44	-0.02	0.40
9	4	0.00	0.07	-0.48	-0.73	-0.48	0.73	0.71
9	5	0.00	-0.70	0.29	-0.28	0.29	0.28	0.52
9	6	0.00	-0.01	-0.10	0.04	-0.1	-0.04	0.09
9	7	0.00	0.42	-0.18	-0.18	-0.18	0.18	0.32
9	8	0.00	0.50	0.10	-0.29	0.1	0.29	0.38
9	9	0.00	0.15	0.28	0.16	0.28	-0.16	0.28
9	10	0.00	-0.02	-0.01	0.03	-0.01	-0.03	0.03
9	11	0.00	-0.04	0.02	-0.11	0.02	0.11	0.09
9	12	0.00	0.03	0.02	0.02	0.02	-0.02	0.03
9	13	0.00	0.03	0.11	0.13	0.11	-0.13	0.14
9	14	0.00	0.05	0.03	-0.01	0.03	0.01	0.04
9	15	0.00	-0.07	-0.05	0.01	-0.05	-0.01	0.06
9	16	0.00	0.01	0.01	-0.12	0.01	0.12	0.10
9	17	0.00	-0.06	-0.15	0.24	-0.15	-0.24	0.23
9	18	0.00	-0.06	0.03	0.05	0.03	-0.05	0.06
9	19	0.00	0.10	-0.07	-0.02	-0.07	0.02	0.08
9	20	0.00	0.03	0.04	0	0.04	0	0.04
9	21	0.00	0.58	0.72	0.49	0.72	-0.49	0.79
9	22	0.00	-0.04	0.04	0.06	0.04	-0.06	0.06
9	23	0.00	0.79	0.28	0.73	0.28	-0.73	0.78
9	24	0.00	-3.05	-1.57	-3.3	-1.57	3.3	3.46
9	25	0.00	-0.15	-0.18	-0.15	-0.18	0.15	0.21
9	26	0.00	-0.73	-0.34	-0.59	-0.34	0.59	0.70
9	27	0.00	1.95	1.36	1.82	1.36	-1.82	2.17
9	28	0.00	0.44	0.50	0.41	0.5	-0.41	0.59
9	29	0.00	-0.01	0.09	0.11	0.09	-0.11	0.12
9	30	0.00	-1.55	-1.04	-1.38	-1.04	1.38	1.67
10	0	0.00	0.09	0.34	0.01	0.34	-0.01	0.28
10	1	0.00	-0.09	-0.05	0.11	-0.05	-0.11	0.11
10	2	0.00	-0.04	-0.03	0.01	-0.03	-0.01	0.03
10	3	0.00	-0.03	0.03	-0.05	0.03	0.05	0.05
10	4	0.00	0.01	-0.10	-0.02	-0.1	0.02	0.08
10	5	0.00	-0.02	0.07	-0.16	0.07	0.16	0.14
10	6	0.00	0.00	-0.05	0.04	-0.05	-0.04	0.05
10	7	0.00	0.12	0.01	-0.16	0.01	0.16	0.15
10	8	0.00	0.14	0.06	-0.04	0.06	0.04	0.10

10	9	0.00	0.05	-0.07	-0.07	-0.07	0.07	0.09
10	10	0.00	0.12	0.10	-0.19	0.1	0.19	0.19
10	11	0.00	-0.11	-0.20	0.39	-0.2	-0.39	0.36
10	12	0.00	-0.15	-0.22	0.44	-0.22	-0.44	0.41
10	13	0.00	0.21	-0.10	-0.08	-0.1	0.08	0.16
10	14	0.00	0.02	-0.21	0.25	-0.21	-0.25	0.27
10	15	0.00	0.06	0.20	-0.32	0.2	0.32	0.31
10	16	0.00	-0.18	0.00	0.18	0	-0.18	0.18
10	17	0.00	0.72	0.94	-1.81	0.94	1.81	1.72
10	18	0.00	0.06	-0.02	0.04	-0.02	-0.04	0.05
10	19	0.00	-0.60	0.54	0.08	0.54	-0.08	0.56
10	20	0.00	-0.02	-0.02	0.04	-0.02	-0.04	0.04
10	21	0.00	0.02	-0.02	0.05	-0.02	-0.05	0.05
10	22	0.00	-0.02	-0.01	0.07	-0.01	-0.07	0.06
10	23	0.00	0.17	0.22	0.03	0.22	-0.03	0.21
10	24	0.00	-0.38	0.11	-0.49	0.11	0.49	0.47
10	25	0.00	-0.03	-0.05	0	-0.05	0	0.04
10	26	0.00	-0.11	-0.06	-0.04	-0.06	0.04	0.09
10	27	0.00	0.11	-0.32	0.33	-0.32	-0.33	0.38
10	28	0.00	0.03	0.05	0.1	0.05	-0.1	0.09
10	29	0.00	-0.07	-0.32	0.15	-0.32	-0.15	0.29
10	30	0.00	-0.27	-0.14	-0.42	-0.14	0.42	0.39
11	0	0.00	-0.62	0.06	0.06	0.06	-0.06	0.36
11	1	0.00	0.05	-0.01	-0.06	-0.01	0.06	0.06
11	2	0.00	-0.07	0.00	0.02	0	-0.02	0.04
11	3	0.00	0.23	-0.04	-0.09	-0.04	0.09	0.16
11	4	0.00	0.39	0.06	-0.02	0.06	0.02	0.23
11	5	0.00	0.27	0.02	-0.1	0.02	0.1	0.18
11	6	0.00	0.11	-0.05	-0.07	-0.05	0.07	0.09
11	7	0.00	-0.04	0.02	0.04	0.02	-0.04	0.04
11	8	0.00	0.02	0.03	-0.04	0.03	0.04	0.04
11	9	0.00	0.07	0.13	0.04	0.13	-0.04	0.12
11	10	0.00	0.65	-0.28	-0.5	-0.28	0.5	0.60
11	11	0.00	0.60	-0.20	-0.33	-0.2	0.33	0.47
11	12	0.00	0.29	-0.04	-0.23	-0.04	0.23	0.25
11	13	0.00	0.11	-0.04	-0.07	-0.04	0.07	0.09
11	14	0.00	0.29	-0.11	-0.18	-0.11	0.18	0.24
11	15	0.00	-0.17	0.09	0.09	0.09	-0.09	0.14
11	16	0.00	-0.02	0.02	0.03	0.02	-0.03	0.03
11	17	0.00	0.10	-0.06	0.01	-0.06	-0.01	0.08
11	18	0.00	0.01	0.01	0	0.01	0	0.01
11	19	0.00	0.00	0.00	-0.02	0	0.02	0.02
11	20	0.00	0.01	-0.03	-0.01	-0.03	0.01	0.03
11	21	0.00	-0.15	-0.37	-0.24	-0.37	0.24	0.37

11	22	0.00	0.08	0.03	0.05	0.03	-0.05	0.07
11	23	0.00	0.08	0.18	0.18	0.18	-0.18	0.21
11	24	0.00	-0.37	-0.25	-0.31	-0.25	0.31	0.39
11	25	0.00	0.20	-0.05	-0.03	-0.05	0.03	0.12
11	26	0.00	-0.09	-0.07	-0.08	-0.07	0.08	0.10
11	27	0.00	-0.87	-0.69	-0.56	-0.69	0.56	0.88
11	28	0.00	0.01	0.10	0.1	0.1	-0.1	0.12
11	29	0.00	-0.31	-0.22	-0.27	-0.22	0.27	0.34
11	30	0.00	-2.08	-1.86	-1.42	-1.86	1.42	2.26
12	0	0.00	-0.13	0.11	-0.2	0.11	0.2	0.20
12	1	0.00	0.10	-0.12	0.07	-0.12	-0.07	0.13
12	2	0.00	-0.17	0.09	-0.1	0.09	0.1	0.15
12	3	0.00	-0.01	-0.09	0.04	-0.09	-0.04	0.08
12	4	0.00	-0.06	-0.03	0.03	-0.03	-0.03	0.05
12	5	0.00	0.03	0.08	-0.21	0.08	0.21	0.18
12	6	0.00	-0.04	0.00	0.04	0	-0.04	0.04
12	7	0.00	0.01	0.01	0	0.01	0	0.01
12	8	0.00	0.03	-0.01	-0.02	-0.01	0.02	0.03
12	9	0.00	0.04	-0.03	-0.04	-0.03	0.04	0.05
12	10	0.00	0.08	0.27	-0.48	0.27	0.48	0.45
12	11	0.00	-0.14	-0.21	0.46	-0.21	-0.46	0.42
12	12	0.00	0.29	0.76	-1.41	0.76	1.41	1.32
12	13	0.00	0.11	0.12	-0.25	0.12	0.25	0.24
12	14	0.00	-0.01	-0.04	0.08	-0.04	-0.08	0.07
12	15	0.00	0.22	0.57	-1.11	0.57	1.11	1.03
12	16	0.00	0.25	0.01	-0.24	0.01	0.24	0.24
12	17	0.00	0.01	0.02	-0.02	0.02	0.02	0.02
12	18	0.00	0.00	-0.01	0.02	-0.01	-0.02	0.02
12	19	0.00	-0.04	0.01	0.04	0.01	-0.04	0.04
12	20	0.00	-0.16	0.10	-0.1	0.1	0.1	0.15
12	21	0.00	-0.04	0.17	-0.23	0.17	0.23	0.23
12	22	0.00	0.01	0.00	-0.01	0	0.01	0.01
12	23	0.00	0.15	-0.10	0.18	-0.1	-0.18	0.19
12	24	0.00	-0.30	0.12	-0.33	0.12	0.33	0.33
12	25	0.00	-0.08	0.01	-0.01	0.01	0.01	0.05
12	26	0.00	0.04	0.03	-0.13	0.03	0.13	0.11
12	27	0.00	0.47	-0.22	0.45	-0.22	-0.45	0.49
12	28	0.00	-0.04	-0.01	0.02	-0.01	-0.02	0.03
12	29	0.00	0.33	-0.16	0.32	-0.16	-0.32	0.35
12	30	0.00	0.32	0.14	-0.05	0.14	0.05	0.22
13	0	0.00	0.03	-0.18	-0.07	-0.18	0.07	0.16
13	1	0.00	-0.03	-0.02	-0.05	-0.02	0.05	0.05
13	2	0.00	0.09	0.02	0.06	0.02	-0.06	0.07
13	3	0.00	-0.05	0.08	0.01	0.08	-0.01	0.07

13	4	0.00	-0.03	0.02	-0.03	0.02	0.03	0.03
13	5	0.00	0.03	-0.05	0.18	-0.05	-0.18	0.15
13	6	0.00	-0.10	-0.05	0.07	-0.05	-0.07	0.09
13	7	0.00	-0.13	-0.09	0.1	-0.09	-0.1	0.13
13	8	0.00	0.13	-0.08	0.17	-0.08	-0.17	0.17
13	9	0.00	-0.23	0.04	-0.09	0.04	0.09	0.16
13	10	0.00	-0.04	-0.01	0.07	-0.01	-0.07	0.06
13	11	0.00	0.03	0.06	-0.07	0.06	0.07	0.08
13	12	0.00	0.00	0.06	-0.08	0.06	0.08	0.08
13	13	0.00	-0.03	-0.01	-0.04	-0.01	0.04	0.04
13	14	0.00	-0.06	0.02	0	0.02	0	0.04
13	15	0.00	0.00	-0.04	0.07	-0.04	-0.07	0.07
13	16	0.00	0.02	0.02	0	0.02	0	0.02
13	17	0.00	0.01	-0.10	0.13	-0.1	-0.13	0.13
13	18	0.00	-0.36	0.44	0.68	0.44	-0.68	0.69
13	19	0.00	0.03	0.09	0.15	0.09	-0.15	0.14
13	20	0.00	0.09	-0.06	-0.03	-0.06	0.03	0.08
13	21	0.00	-0.22	-0.10	0.02	-0.1	-0.02	0.15
13	22	0.00	-0.39	-0.21	0.19	-0.21	-0.19	0.32
13	23	0.00	-0.47	0.20	-0.23	0.2	0.23	0.37
13	24	0.00	0.00	-1.47	0.23	-1.47	-0.23	1.21
13	25	0.00	0.38	-0.07	0	-0.07	0	0.23
13	26	0.00	0.07	0.01	0.11	0.01	-0.11	0.10
13	27	0.00	-0.20	0.23	-0.15	0.23	0.15	0.25
13	28	0.00	0.00	0.16	0.12	0.16	-0.12	0.16
13	29	0.00	-0.07	0.25	-0.16	0.25	0.16	0.25
13	30	0.00	0.37	0.44	0.07	0.44	-0.07	0.42
14	0	0.00	-0.11	-0.06	0.05	-0.06	-0.05	0.09
14	1	0.00	0.09	-0.02	0.26	-0.02	-0.26	0.22
14	2	0.00	-0.25	-0.03	-0.08	-0.03	0.08	0.16
14	3	0.00	-0.05	-0.03	0.01	-0.03	-0.01	0.04
14	4	0.00	-0.08	0.07	-0.07	0.07	0.07	0.09
14	5	0.00	-0.02	-0.05	0.09	-0.05	-0.09	0.08
14	6	0.00	0.05	0.02	0.13	0.02	-0.13	0.11
14	7	0.00	-0.11	-0.01	0.11	-0.01	-0.11	0.11
14	8	0.00	-0.08	-0.10	-0.05	-0.1	0.05	0.10
14	9	0.00	-0.15	0.07	-0.05	0.07	0.05	0.11
14	10	0.00	0.08	-0.02	-0.05	-0.02	0.05	0.06
14	11	0.00	0.02	0.05	-0.11	0.05	0.11	0.10
14	12	0.00	-0.03	-0.06	0.05	-0.06	-0.05	0.07
14	13	0.00	0.02	-0.02	-0.01	-0.02	0.01	0.02
14	14	0.00	0.04	-0.01	-0.05	-0.01	0.05	0.05
14	15	0.00	-0.04	-0.08	0.14	-0.08	-0.14	0.13
14	16	0.00	0.04	0.00	0.03	0	-0.03	0.03

14	17	0.00	-0.01	-0.03	0.03	-0.03	-0.03	0.04
14	18	0.00	-0.09	0.10	0.23	0.1	-0.23	0.21
14	19	0.00	0.03	0.01	0.04	0.01	-0.04	0.04
14	20	0.00	-0.60	0.17	0.14	0.17	-0.14	0.39
14	21	0.00	0.49	0.70	-0.02	0.7	0.02	0.64
14	22	0.00	0.31	-0.09	0.07	-0.09	-0.07	0.20
14	23	0.00	1.55	0.25	0.59	0.25	-0.59	1.04
14	24	0.00	0.59	-0.26	0.32	-0.26	-0.32	0.48
14	25	0.00	-1.28	0.16	0.16	0.16	-0.16	0.76
14	26	0.00	0.04	-0.04	-0.35	-0.04	0.35	0.29
14	27	0.00	0.30	0.44	0.14	0.44	-0.14	0.41
14	28	0.00	-0.06	-0.35	-0.38	-0.35	0.38	0.42
14	29	0.00	0.49	-0.42	0.49	-0.42	-0.49	0.60
14	30	0.00	0.31	0.36	0.07	0.36	-0.07	0.35
15	0	0.00	0.03	0.05	-0.09	0.05	0.09	0.09
15	1	0.00	0.09	0.08	0.01	0.08	-0.01	0.08
15	2	0.00	-0.21	0.02	-0.14	0.02	0.14	0.17
15	3	0.00	0.06	0.07	-0.08	0.07	0.08	0.09
15	4	0.00	0.14	0.04	0.21	0.04	-0.21	0.19
15	5	0.00	0.16	0.09	-0.05	0.09	0.05	0.12
15	6	0.00	-0.02	0.03	-0.08	0.03	0.08	0.07
15	7	0.00	0.01	0.04	-0.04	0.04	0.04	0.05
15	8	0.00	0.13	-0.02	0.06	-0.02	-0.06	0.09
15	9	0.00	0.01	0.04	0.08	0.04	-0.08	0.07
15	10	0.00	0.06	0.01	-0.06	0.01	0.06	0.06
15	11	0.00	0.00	-0.04	0.02	-0.04	-0.02	0.04
15	12	0.00	0.07	0.11	-0.14	0.11	0.14	0.15
15	13	0.00	-0.04	0.03	-0.01	0.03	0.01	0.03
15	14	0.00	0.00	-0.01	-0.04	-0.01	0.04	0.03
15	15	0.00	-0.06	0.09	-0.11	0.09	0.11	0.12
15	16	0.00	-0.03	0.03	0.01	0.03	-0.01	0.03
15	17	0.00	0.04	-0.01	-0.01	-0.01	0.01	0.03
15	18	0.00	0.00	0.03	0.06	0.03	-0.06	0.05
15	19	0.00	0.00	0.00	-0.01	0	0.01	0.01
15	20	0.00	1.25	-0.10	-0.1	-0.1	0.1	0.73
15	21	0.00	0.85	-0.06	0.15	-0.06	-0.15	0.51
15	22	0.00	0.14	0.02	-0.02	0.02	0.02	0.08
15	23	0.00	-0.25	0.47	-0.05	0.47	0.05	0.41
15	24	0.00	0.16	-0.04	0.03	-0.04	-0.03	0.10
15	25	0.00	-0.77	0.11	0	0.11	0	0.45
15	26	0.00	-0.23	-0.07	0.4	-0.07	-0.4	0.36
15	27	0.00	0.76	-0.39	0.33	-0.39	-0.33	0.61
15	28	0.00	0.04	-0.28	-0.41	-0.28	0.41	0.41
15	29	0.00	-0.27	-0.20	-0.09	-0.2	0.09	0.24

15	30	0.00	-0.83	-0.39	-0.36	-0.39	0.36	0.65
16	0	0.00	-0.20	-0.18	-0.09	-0.18	0.09	0.20
16	1	0.00	0.30	0.07	-0.03	0.07	0.03	0.18
16	2	0.00	0.04	-0.03	0.07	-0.03	-0.07	0.07
16	3	0.00	0.11	-0.02	-0.08	-0.02	0.08	0.09
16	4	0.00	0.00	-0.04	-0.04	-0.04	0.04	0.05
16	5	0.00	0.10	0.06	0.09	0.06	-0.09	0.11
16	6	0.00	-0.01	0.01	-0.05	0.01	0.05	0.04
16	7	0.00	0.04	-0.04	0.08	-0.04	-0.08	0.08
16	8	0.00	-0.05	0.01	0.05	0.01	-0.05	0.05
16	9	0.00	-0.04	-0.01	-0.03	-0.01	0.03	0.03
16	10	0.00	0.05	0.02	-0.04	0.02	0.04	0.05
16	11	0.00	0.53	0.94	-1.87	0.94	1.87	1.74
16	12	0.00	0.24	0.37	-0.78	0.37	0.78	0.72
16	13	0.00	-0.41	0.47	0	0.47	0	0.45
16	14	0.00	-0.07	0.24	-0.27	0.24	0.27	0.30
16	15	0.00	-0.06	-0.20	0.32	-0.2	-0.32	0.31
16	16	0.00	-0.20	0.00	0.18	0	-0.18	0.19
16	17	0.00	0.21	0.31	-0.61	0.31	0.61	0.57
16	18	0.00	0.00	-0.02	-0.01	-0.02	0.01	0.02
16	19	0.00	-0.11	0.15	-0.04	0.15	0.04	0.14
16	20	0.00	-0.04	0.02	-0.05	0.02	0.05	0.05
16	21	0.00	-0.17	-0.14	-0.17	-0.14	0.17	0.20
16	22	0.00	-0.03	-0.01	0	-0.01	0	0.02
16	23	0.00	-0.11	-0.19	-0.04	-0.19	0.04	0.17
16	24	0.00	-0.08	-0.23	0.11	-0.23	-0.11	0.21
16	25	0.00	0.19	-0.03	-0.07	-0.03	0.07	0.13
16	26	0.00	0.02	0.01	-0.02	0.01	0.02	0.02
16	27	0.00	-0.01	0.05	-0.07	0.05	0.07	0.07
16	28	0.00	0.06	0.01	-0.01	0.01	0.01	0.04
16	29	0.00	0.07	0.08	0.04	0.08	-0.04	0.08
16	30	0.00	0.10	0.03	-0.02	0.03	0.02	0.06
17	0	0.00	0.42	0.11	0.42	0.11	-0.42	0.43
17	1	0.00	0.07	-0.03	0.02	-0.03	-0.02	0.05
17	2	0.00	0.25	0.09	-0.02	0.09	0.02	0.16
17	3	0.00	0.01	0.06	-0.06	0.06	0.06	0.07
17	4	0.00	0.05	0.00	0.03	0	-0.03	0.04
17	5	0.00	0.01	0.09	-0.08	0.09	0.08	0.10
17	6	0.00	0.18	0.10	-0.12	0.1	0.12	0.16
17	7	0.00	-0.07	-0.08	-0.08	-0.08	0.08	0.10
17	8	0.00	0.01	0.00	-0.06	0	0.06	0.05
17	9	0.00	0.01	0.06	0.03	0.06	-0.03	0.06
17	10	0.00	-0.43	-1.04	1.81	-1.04	-1.81	1.72
17	11	0.00	0.16	0.02	-0.22	0.02	0.22	0.20

17	12	0.00	0.14	-0.02	-0.06	-0.02	0.06	0.10
17	13	0.00	-0.59	0.19	0.36	0.19	-0.36	0.48
17	14	0.00	-0.09	0.02	0.08	0.02	-0.08	0.09
17	15	0.00	0.19	0.40	-0.84	0.4	0.84	0.77
17	16	0.00	-0.42	0.13	0.25	0.13	-0.25	0.33
17	17	0.00	-0.04	0.09	-0.09	0.09	0.09	0.11
17	18	0.00	-0.04	0.02	0.01	0.02	-0.01	0.03
17	19	0.00	-0.01	0.03	-0.06	0.03	0.06	0.06
17	20	0.00	0.01	0.14	-0.11	0.14	0.11	0.15
17	21	0.00	0.22	0.01	0.46	0.01	-0.46	0.40
17	22	0.00	-0.01	0.05	-0.02	0.05	0.02	0.04
17	23	0.00	0.00	0.39	-0.25	0.39	0.25	0.38
17	24	0.00	0.03	0.07	-0.04	0.07	0.04	0.07
17	25	0.00	0.00	-0.09	0	-0.09	0	0.07
17	26	0.00	0.04	0.01	-0.05	0.01	0.05	0.05
17	27	0.00	0.12	-0.05	0.23	-0.05	-0.23	0.20
17	28	0.00	0.03	-0.06	0	-0.06	0	0.05
17	29	0.00	-0.19	0.30	-0.32	0.3	0.32	0.37
17	30	0.00	-0.26	0.05	-0.06	0.05	0.06	0.16
18	0	0.00	-0.10	-0.21	0.1	-0.21	-0.1	0.20
18	1	0.00	0.12	-0.12	0	-0.12	0	0.12
18	2	0.00	-0.02	-0.09	-0.03	-0.09	0.03	0.08
18	3	0.00	-0.03	-0.01	0.04	-0.01	-0.04	0.04
18	4	0.00	0.00	-0.02	0.09	-0.02	-0.09	0.08
18	5	0.00	-0.10	0.00	-0.11	0	0.11	0.11
18	6	0.00	-0.05	0.05	-0.04	0.05	0.04	0.06
18	7	0.00	-0.06	0.04	0.12	0.04	-0.12	0.11
18	8	0.00	-0.05	0.00	0	0	0	0.03
18	9	0.00	0.04	0.08	0.01	0.08	-0.01	0.07
18	10	0.00	0.19	0.47	-0.81	0.47	0.81	0.77
18	11	0.00	0.04	0.32	-0.53	0.32	0.53	0.51
18	12	0.00	-0.28	-0.48	0.99	-0.48	-0.99	0.91
18	13	0.00	0.25	-0.16	-0.09	-0.16	0.09	0.21
18	14	0.00	0.16	0.22	-0.54	0.22	0.54	0.48
18	15	0.00	0.27	0.62	-1.23	0.62	1.23	1.14
18	16	0.00	-0.91	0.30	0.56	0.3	-0.56	0.74
18	17	0.00	-0.16	-0.14	0.37	-0.14	-0.37	0.34
18	18	0.00	0.01	0.02	0	0.02	0	0.02
18	19	0.00	0.16	-0.11	-0.01	-0.11	0.01	0.13
18	20	0.00	0.08	0.20	-0.35	0.2	0.35	0.33
18	21	0.00	0.01	-0.06	0.03	-0.06	-0.03	0.06
18	22	0.00	-0.01	0.01	-0.03	0.01	0.03	0.03
18	23	0.00	-0.14	-0.06	0	-0.06	0	0.09
18	24	0.00	0.09	0.19	-0.17	0.19	0.17	0.21

18	25	0.00	-0.08	-0.03	0.15	-0.03	-0.15	0.13
18	26	0.00	0.00	0.04	-0.04	0.04	0.04	0.05
18	27	0.00	0.01	-0.20	0.2	-0.2	-0.2	0.23
18	28	0.00	-0.05	-0.04	0.06	-0.04	-0.06	0.07
18	29	0.00	0.02	0.12	-0.06	0.12	0.06	0.11
18	30	0.00	0.00	0.15	0.05	0.15	-0.05	0.13
19	0	0.00	0.44	0.03	-0.02	0.03	0.02	0.26
19	1	0.00	0.13	-0.54	-0.14	-0.54	0.14	0.46
19	2	0.00	-0.18	-0.56	0.53	-0.56	-0.53	0.64
19	3	0.00	0.04	-0.46	0.19	-0.46	-0.19	0.41
19	4	0.00	0.58	0.21	0.06	0.21	-0.06	0.38
19	5	0.00	-0.04	-0.40	0.12	-0.4	-0.12	0.34
19	6	0.00	0.00	-0.16	0.12	-0.16	-0.12	0.16
19	7	0.00	-0.33	0.22	-0.15	0.22	0.15	0.29
19	8	0.00	-0.09	-0.05	-0.09	-0.05	0.09	0.10
19	9	0.00	0.45	-0.14	0.03	-0.14	-0.03	0.28
19	10	0.00	0.10	-0.09	0.1	-0.09	-0.1	0.12
19	11	0.00	-0.04	0.03	-0.03	0.03	0.03	0.04
19	12	0.00	0.11	-0.05	-0.13	-0.05	0.13	0.13
19	13	0.00	0.00	-0.04	-0.05	-0.04	0.05	0.05
19	14	0.00	-0.12	-0.05	0.14	-0.05	-0.14	0.14
19	15	0.00	0.26	0.05	-0.13	0.05	0.13	0.19
19	16	0.00	-0.07	-0.01	-0.1	-0.01	0.1	0.09
19	17	0.00	-0.05	-0.03	0.05	-0.03	-0.05	0.06
19	18	0.00	0.15	-0.03	0.08	-0.03	-0.08	0.11
19	19	0.00	-0.13	0.06	0.15	0.06	-0.15	0.15
19	20	0.00	-0.11	-0.36	-0.48	-0.36	0.48	0.49
19	21	0.00	-1.74	-2.14	-3.79	-2.14	3.79	3.69
19	22	0.00	0.04	-0.55	0.09	-0.55	-0.09	0.46
19	23	0.00	-1.66	-4.05	0.47	-4.05	-0.47	3.46
19	24	0.00	-0.72	0.15	-1.29	0.15	1.29	1.14
19	25	0.00	0.45	0.42	0.31	0.42	-0.31	0.50
19	26	0.00	-0.14	0.05	-0.19	0.05	0.19	0.18
19	27	0.00	-2.64	0.14	-2.03	0.14	2.03	2.25
19	28	0.00	-0.06	-0.08	-0.01	-0.08	0.01	0.07
19	29	0.00	0.47	-1.14	1.53	-1.14	-1.53	1.58
19	30	0.00	2.17	0.05	0.87	0.05	-0.87	1.44
20	0	0.00	0.33	-0.28	0.07	-0.28	-0.07	0.30
20	1	0.00	0.26	0.77	-0.37	0.77	0.37	0.71
20	2	0.00	-0.05	0.41	-0.21	0.41	0.21	0.38
20	3	0.00	0.23	0.75	-0.07	0.75	0.07	0.63
20	4	0.00	-0.11	-0.23	0.21	-0.23	-0.21	0.26
20	5	0.00	-0.03	0.72	-0.39	0.72	0.39	0.67
20	6	0.00	-0.09	0.66	-0.68	0.66	0.68	0.78

20	7	0.00	0.12	0.38	-0.28	0.38	0.28	0.39
20	8	0.00	-0.55	0.20	-0.48	0.2	0.48	0.53
20	9	0.00	0.30	0.34	0.39	0.34	-0.39	0.46
20	10	0.00	0.05	0.11	-0.19	0.11	0.19	0.18
20	11	0.00	0.09	-0.02	0.07	-0.02	-0.07	0.08
20	12	0.00	0.00	0.02	-0.04	0.02	0.04	0.04
20	13	0.00	0.02	-0.05	-0.02	-0.05	0.02	0.05
20	14	0.00	-0.03	0.13	-0.15	0.13	0.15	0.16
20	15	0.00	0.03	-0.08	0.14	-0.08	-0.14	0.13
20	16	0.00	0.06	-0.03	0	-0.03	0	0.04
20	17	0.00	0.02	0.00	-0.01	0	0.01	0.01
20	18	0.00	0.07	0.15	-0.1	0.15	0.1	0.15
20	19	0.00	-0.03	0.12	-0.08	0.12	0.08	0.12
20	20	0.00	-0.02	-0.28	-0.02	-0.28	0.02	0.23
20	21	0.00	-0.08	-2.65	1.5	-2.65	-1.5	2.49
20	22	0.00	-0.28	0.14	-0.45	0.14	0.45	0.42
20	23	0.00	-2.84	-0.03	-3.69	-0.03	3.69	3.43
20	24	0.00	-0.04	2.60	-2.56	2.6	2.56	2.98
20	25	0.00	0.37	0.17	0.19	0.17	-0.19	0.30
20	26	0.00	0.05	-0.13	0.16	-0.13	-0.16	0.17
20	27	0.00	-0.69	-2.23	2.72	-2.23	-2.72	2.90
20	28	0.00	-0.04	-0.28	0.05	-0.28	-0.05	0.23
20	29	0.00	-1.85	1.12	-1.82	1.12	1.82	2.05
20	30	0.00	-2.19	0.80	0.15	0.8	-0.15	1.43
21	0	0.00	-0.24	-0.28	-0.19	-0.28	0.19	0.31
21	1	0.00	-0.23	-0.23	0.1	-0.23	-0.1	0.24
21	2	0.00	0.15	-0.22	0.04	-0.22	-0.04	0.20
21	3	0.00	0.34	-0.27	0	-0.27	0	0.30
21	4	0.00	0.06	0.23	0.17	0.23	-0.17	0.24
21	5	0.00	-0.37	-0.21	-0.38	-0.21	0.38	0.41
21	6	0.00	-0.27	0.35	-0.16	0.35	0.16	0.35
21	7	0.00	-0.58	1.17	-0.47	1.17	0.47	1.08
21	8	0.00	-0.79	-0.24	-0.79	-0.24	0.79	0.81
21	9	0.00	0.89	0.79	0.79	0.79	-0.79	1.05
21	10	0.00	0.01	-0.03	0.01	-0.03	-0.01	0.03
21	11	0.00	-0.01	-0.04	0	-0.04	0	0.03
21	12	0.00	0.01	0.11	-0.11	0.11	0.11	0.13
21	13	0.00	0.01	0.03	0	0.03	0	0.03
21	14	0.00	-0.06	-0.08	0.13	-0.08	-0.13	0.13
21	15	0.00	-0.08	-0.03	0.13	-0.03	-0.13	0.12
21	16	0.00	0.10	0.01	-0.03	0.01	0.03	0.06
21	17	0.00	0.01	-0.04	0.06	-0.04	-0.06	0.06
21	18	0.00	-0.07	-0.07	0.09	-0.07	-0.09	0.10
21	19	0.00	0.03	0.03	0.04	0.03	-0.04	0.04

21	20	0.00	0.04	0.25	0.13	0.25	-0.13	0.23
21	21	0.00	0.38	1.74	0.5	1.74	-0.5	1.49
21	22	0.00	0.10	-0.11	0.3	-0.11	-0.3	0.27
21	23	0.00	1.68	-0.47	2.96	-0.47	-2.96	2.63
21	24	0.00	2.15	5.56	-3.14	5.56	3.14	5.36
21	25	0.00	-0.38	-0.07	-0.1	-0.07	0.1	0.24
21	26	0.00	0.16	-0.01	-0.14	-0.01	0.14	0.15
21	27	0.00	0.52	-0.53	0.1	-0.53	-0.1	0.53
21	28	0.00	-0.10	-0.47	-0.01	-0.47	0.01	0.39
21	29	0.00	0.77	-0.77	0.83	-0.77	-0.83	1.03
21	30	0.00	0.22	-0.67	0.78	-0.67	-0.78	0.85
22	0	0.00	-0.33	0.24	-0.5	0.24	0.5	0.49
22	1	0.00	-0.12	0.02	0.15	0.02	-0.15	0.14
22	2	0.00	0.11	0.04	0.01	0.04	-0.01	0.07
22	3	0.00	-0.08	-0.20	-0.08	-0.2	0.08	0.18
22	4	0.00	0.09	-0.07	0.02	-0.07	-0.02	0.08
22	5	0.00	0.08	-0.20	0.1	-0.2	-0.1	0.19
22	6	0.00	0.00	-0.25	0.2	-0.25	-0.2	0.26
22	7	0.00	0.18	-0.29	0.36	-0.29	-0.36	0.39
22	8	0.00	0.25	-0.07	0.27	-0.07	-0.27	0.27
22	9	0.00	-0.42	-0.02	-0.25	-0.02	0.25	0.32
22	10	0.00	0.06	0.00	-0.15	0	0.15	0.13
22	11	0.00	-0.19	0.08	0.09	0.08	-0.09	0.15
22	12	0.00	0.58	-0.19	-0.26	-0.19	0.26	0.43
22	13	0.00	0.06	-0.01	-0.06	-0.01	0.06	0.06
22	14	0.00	0.16	-0.10	-0.09	-0.1	0.09	0.14
22	15	0.00	0.59	-0.14	-0.41	-0.14	0.41	0.49
22	16	0.00	-0.03	0.00	-0.03	0	0.03	0.03
22	17	0.00	0.00	-0.02	-0.04	-0.02	0.04	0.04
22	18	0.00	-0.08	0.03	0.02	0.03	-0.02	0.05
22	19	0.00	0.11	-0.13	-0.02	-0.13	0.02	0.12
22	20	0.00	-0.01	0.09	0	0.09	0	0.07
22	21	0.00	-0.09	0.62	-0.06	0.62	0.06	0.51
22	22	0.00	0.07	0.02	0.12	0.02	-0.12	0.11
22	23	0.00	0.92	0.68	0.47	0.68	-0.47	0.86
22	24	0.00	-0.36	-2.32	1.36	-2.32	-1.36	2.21
22	25	0.00	-0.08	-0.07	0.01	-0.07	-0.01	0.07
22	26	0.00	-0.01	0.00	-0.1	0	0.1	0.08
22	27	0.00	0.10	0.92	-0.67	0.92	0.67	0.93
22	28	0.00	0.02	0.16	-0.04	0.16	0.04	0.14
22	29	0.00	0.20	-0.15	0.14	-0.15	-0.14	0.20
22	30	0.00	0.02	0.00	-0.36	0	0.36	0.29
23	0	0.00	0.53	0.23	0.27	0.23	-0.27	0.42
23	1	0.00	0.22	0.29	-0.24	0.29	0.24	0.33

23	2	0.00	-0.06	0.07	0.09	0.07	-0.09	0.10
23	3	0.00	-0.14	0.13	-0.36	0.13	0.36	0.32
23	4	0.00	-0.03	0.01	0.16	0.01	-0.16	0.13
23	5	0.00	0.00	0.08	-0.01	0.08	0.01	0.07
23	6	0.00	0.12	-0.22	0.18	-0.22	-0.18	0.24
23	7	0.00	0.03	-0.57	0.67	-0.57	-0.67	0.72
23	8	0.00	0.25	-0.13	0.41	-0.13	-0.41	0.38
23	9	0.00	-0.51	-0.12	-0.26	-0.12	0.26	0.38
23	10	0.00	-0.08	0.01	0.09	0.01	-0.09	0.09
23	11	0.00	0.02	-0.03	-0.02	-0.03	0.02	0.03
23	12	0.00	-0.32	0.08	0.09	0.08	-0.09	0.21
23	13	0.00	-0.11	0.13	0.01	0.13	-0.01	0.12
23	14	0.00	0.06	-0.36	0.31	-0.36	-0.31	0.39
23	15	0.00	-0.33	0.13	0.31	0.13	-0.31	0.33
23	16	0.00	0.11	-0.02	-0.01	-0.02	0.01	0.07
23	17	0.00	0.02	-0.09	-0.03	-0.09	0.03	0.08
23	18	0.00	0.03	0.13	-0.02	0.13	0.02	0.11
23	19	0.00	0.01	-0.11	0.05	-0.11	-0.05	0.10
23	20	0.00	-0.14	-0.35	-0.16	-0.35	0.16	0.32
23	21	0.00	-1.05	-2.29	-1.21	-2.29	1.21	2.20
23	22	0.00	-0.14	-0.06	-0.22	-0.06	0.22	0.20
23	23	0.00	-2.34	-0.63	-2.54	-0.63	2.54	2.53
23	24	0.00	-1.63	-4.03	1.28	-4.03	-1.28	3.58
23	25	0.00	0.50	0.18	0.18	0.18	-0.18	0.36
23	26	0.00	-0.10	-0.02	0.07	-0.02	-0.07	0.08
23	27	0.00	-0.82	0.24	-0.15	0.24	0.15	0.53
23	28	0.00	0.03	0.27	-0.05	0.27	0.05	0.22
23	29	0.00	-0.55	0.25	-0.32	0.25	0.32	0.46
23	30	0.00	0.61	1.08	0	1.08	0	0.95
24	0	0.00	0.17	-0.08	-0.22	-0.08	0.22	0.21
24	1	0.00	0.07	-0.35	-0.18	-0.35	0.18	0.32
24	2	0.00	0.28	-0.38	0.27	-0.38	-0.27	0.41
24	3	0.00	-0.15	-0.31	0.36	-0.31	-0.36	0.40
24	4	0.00	0.12	0.12	-0.05	0.12	0.05	0.13
24	5	0.00	-0.21	-0.14	0.21	-0.14	-0.21	0.24
24	6	0.00	0.10	-0.03	0.11	-0.03	-0.11	0.11
24	7	0.00	0.08	0.35	-0.28	0.35	0.28	0.37
24	8	0.00	-0.38	-0.05	-0.21	-0.05	0.21	0.28
24	9	0.00	-0.05	0.11	0.08	0.11	-0.08	0.11
24	10	0.00	0.00	-0.04	0.22	-0.04	-0.22	0.18
24	11	0.00	-0.29	-0.12	0.27	-0.12	-0.27	0.29
24	12	0.00	-0.12	0.00	-0.08	0	0.08	0.10
24	13	0.00	-0.12	-0.09	0.31	-0.09	-0.31	0.27
24	14	0.00	0.41	0.44	-0.98	0.44	0.98	0.91

24	15	0.00	0.07	0.02	0.09	0.02	-0.09	0.09
24	16	0.00	-0.08	0.08	0.02	0.08	-0.02	0.08
24	17	0.00	0.03	0.02	-0.17	0.02	0.17	0.14
24	18	0.00	0.16	0.02	0.1	0.02	-0.1	0.12
24	19	0.00	0.34	0.01	-0.27	0.01	0.27	0.30
24	20	0.00	-0.38	-0.32	-0.44	-0.32	0.44	0.50
24	21	0.00	-2.69	-2.55	-3.18	-2.55	3.18	3.67
24	22	0.00	-0.15	-0.51	0	-0.51	0	0.43
24	23	0.00	-2.33	-3.75	-0.68	-3.75	0.68	3.39
24	24	0.00	-0.78	0.51	-1.35	0.51	1.35	1.26
24	25	0.00	0.66	0.43	0.26	0.43	-0.26	0.56
24	26	0.00	-0.06	0.06	-0.09	0.06	0.09	0.09
24	27	0.00	-2.18	-0.12	-1.31	-0.12	1.31	1.65
24	28	0.00	-0.08	-0.07	0.21	-0.07	-0.21	0.19
24	29	0.00	0.35	-0.57	0.85	-0.57	-0.85	0.86
24	30	0.00	1.82	0.74	1.12	0.74	-1.12	1.52
25	0	0.00	-0.38	-0.12	0.13	-0.12	-0.13	0.26
25	1	0.00	-0.40	-0.60	0.54	-0.6	-0.54	0.70
25	2	0.00	0.19	-0.31	0.27	-0.31	-0.27	0.35
25	3	0.00	-0.19	-0.73	0.23	-0.73	-0.23	0.63
25	4	0.00	-0.01	0.24	-0.26	0.24	0.26	0.29
25	5	0.00	0.05	-0.54	0.29	-0.54	-0.29	0.50
25	6	0.00	-0.08	-0.48	0.34	-0.48	-0.34	0.48
25	7	0.00	0.20	-0.09	0.12	-0.09	-0.12	0.17
25	8	0.00	0.51	-0.06	0.27	-0.06	-0.27	0.37
25	9	0.00	-0.07	-0.22	-0.03	-0.22	0.03	0.19
25	10	0.00	-0.09	-0.01	-0.07	-0.01	0.07	0.08
25	11	0.00	0.08	-0.11	0.03	-0.11	-0.03	0.10
25	12	0.00	-0.18	0.12	0.26	0.12	-0.26	0.26
25	13	0.00	-0.02	-0.12	0.15	-0.12	-0.15	0.16
25	14	0.00	0.20	0.38	-0.63	0.38	0.63	0.61
25	15	0.00	-0.42	0.02	0.29	0.02	-0.29	0.34
25	16	0.00	-0.20	-0.02	-0.1	-0.02	0.1	0.14
25	17	0.00	0.01	0.07	-0.06	0.07	0.06	0.08
25	18	0.00	-0.13	-0.11	0.09	-0.11	-0.09	0.14
25	19	0.00	0.12	-0.07	-0.1	-0.07	0.1	0.12
25	20	0.00	-0.02	0.34	0.12	0.34	-0.12	0.29
25	21	0.00	0.28	2.66	-0.82	2.66	0.82	2.28
25	22	0.00	0.40	-0.15	0.54	-0.15	-0.54	0.51
25	23	0.00	3.61	0.31	3.76	0.31	-3.76	3.72
25	24	0.00	0.34	-1.27	1.43	-1.27	-1.43	1.57
25	25	0.00	-0.45	-0.18	-0.15	-0.18	0.15	0.32
25	26	0.00	-0.05	0.05	-0.31	0.05	0.31	0.26
25	27	0.00	-0.17	1.95	-2.34	1.95	2.34	2.49

25	28	0.00	0.02	0.09	-0.04	0.09	0.04	0.08
25	29	0.00	1.25	-1.18	1.53	-1.18	-1.53	1.73
25	30	0.00	0.95	-0.73	-0.22	-0.73	0.22	0.83
26	0	0.00	-0.04	0.04	0.1	0.04	-0.1	0.09
26	1	0.00	0.17	0.34	-0.06	0.34	0.06	0.30
26	2	0.00	-0.36	0.36	-0.3	0.36	0.3	0.44
26	3	0.00	0.09	0.36	-0.49	0.36	0.49	0.50
26	4	0.00	-0.03	-0.15	0.18	-0.15	-0.18	0.19
26	5	0.00	0.14	0.22	-0.13	0.22	0.13	0.22
26	6	0.00	0.01	-0.05	0.02	-0.05	-0.02	0.04
26	7	0.00	-0.15	-0.31	0.32	-0.31	-0.32	0.37
26	8	0.00	0.17	-0.02	0.13	-0.02	-0.13	0.15
26	9	0.00	-0.04	-0.06	-0.16	-0.06	0.16	0.14
26	10	0.00	-0.04	-0.08	0.03	-0.08	-0.03	0.07
26	11	0.00	-0.18	-0.19	0.39	-0.19	-0.39	0.37
26	12	0.00	0.15	0.18	-0.37	0.18	0.37	0.35
26	13	0.00	-0.07	-0.17	0.26	-0.17	-0.26	0.26
26	14	0.00	0.53	0.70	-1.29	0.7	1.29	1.24
26	15	0.00	0.00	-0.14	0.13	-0.14	-0.13	0.16
26	16	0.00	0.17	-0.05	-0.02	-0.05	0.02	0.11
26	17	0.00	0.06	0.09	-0.12	0.09	0.12	0.13
26	18	0.00	-0.10	0.08	-0.05	0.08	0.05	0.10
26	19	0.00	0.23	-0.03	-0.37	-0.03	0.37	0.33
26	20	0.00	0.22	0.00	0.17	0	-0.17	0.19
26	21	0.00	1.32	0.35	1.63	0.35	-1.63	1.56
26	22	0.00	-0.13	0.23	-0.06	0.23	0.06	0.21
26	23	0.00	-0.15	1.83	-1.02	1.83	1.02	1.71
26	24	0.00	0.00	-0.87	0.7	-0.87	-0.7	0.91
26	25	0.00	-0.20	-0.13	-0.08	-0.13	0.08	0.17
26	26	0.00	0.01	-0.06	0.2	-0.06	-0.2	0.17
26	27	0.00	1.19	-0.36	1.23	-0.36	-1.23	1.25
26	28	0.00	0.04	-0.03	0.04	-0.03	-0.04	0.05
26	29	0.00	-0.51	0.61	-0.75	0.61	0.75	0.84
26	30	0.00	-0.96	0.01	-0.66	0.01	0.66	0.77
27	0	0.00	-0.56	-0.12	-0.02	-0.12	0.02	0.34
27	1	0.00	0.35	0.04	0.28	0.04	-0.28	0.31
27	2	0.00	-0.13	0.52	-0.6	0.52	0.6	0.65
27	3	0.00	-0.22	-0.12	0.01	-0.12	-0.01	0.16
27	4	0.00	-0.73	-0.15	-0.46	-0.15	0.46	0.58
27	5	0.00	-0.30	-0.22	-0.12	-0.22	0.12	0.27
27	6	0.00	-0.07	0.04	-0.06	0.04	0.06	0.07
27	7	0.00	0.04	-0.02	0.04	-0.02	-0.04	0.04
27	8	0.00	0.10	0.08	0.04	0.08	-0.04	0.09
27	9	0.00	0.09	0.02	0.02	0.02	-0.02	0.06

27	10	0.00	0.04	-0.04	-0.06	-0.04	0.06	0.06
27	11	0.00	0.06	-0.06	-0.09	-0.06	0.09	0.09
27	12	0.00	-0.06	0.01	0.07	0.01	-0.07	0.07
27	13	0.00	-0.04	-0.04	-0.1	-0.04	0.1	0.09
27	14	0.00	-0.18	0.11	0.38	0.11	-0.38	0.34
27	15	0.00	0.02	0.00	0	0	0	0.01
27	16	0.00	-0.02	0.00	-0.02	0	0.02	0.02
27	17	0.00	-0.05	0.05	0.07	0.05	-0.07	0.08
27	18	0.00	0.05	-0.02	0	-0.02	0	0.03
27	19	0.00	-0.03	0.01	0.03	0.01	-0.03	0.03
27	20	0.00	-0.04	-0.13	-0.05	-0.13	0.05	0.12
27	21	0.00	-0.51	-0.15	-0.51	-0.15	0.51	0.52
27	22	0.00	-1.38	0.05	0.08	0.05	-0.08	0.80
27	23	0.00	-0.61	-1.42	-0.22	-1.42	0.22	1.22
27	24	0.00	-0.38	-0.62	-0.13	-0.62	0.13	0.56
27	25	0.00	-0.10	0.37	0.08	0.37	-0.08	0.31
27	26	0.00	-0.07	-0.03	-0.03	-0.03	0.03	0.05
27	27	0.00	-0.70	-0.74	-0.44	-0.74	0.44	0.81
27	28	0.00	-0.05	0.04	0.02	0.04	-0.02	0.05
27	29	0.00	0.18	1.19	-0.2	1.19	0.2	0.99
27	30	0.00	0.37	-0.07	0.13	-0.07	-0.13	0.25
28	0	0.00	-0.36	0.23	-0.11	0.23	0.11	0.29
28	1	0.00	-0.09	-0.12	-0.01	-0.12	0.01	0.11
28	2	0.00	0.00	-0.15	0.11	-0.15	-0.11	0.15
28	3	0.00	0.22	0.00	0.3	0	-0.3	0.28
28	4	0.00	0.14	0.02	0.08	0.02	-0.08	0.11
28	5	0.00	-0.05	0.06	-0.06	0.06	0.06	0.08
28	6	0.00	-0.09	0.29	-0.26	0.29	0.26	0.32
28	7	0.00	-0.07	0.48	-0.45	0.48	0.45	0.54
28	8	0.00	-0.37	0.15	-0.51	0.15	0.51	0.48
28	9	0.00	0.55	0.16	0.25	0.16	-0.25	0.40
28	10	0.00	-0.17	0.09	0.06	0.09	-0.06	0.13
28	11	0.00	-0.11	0.18	0.06	0.18	-0.06	0.17
28	12	0.00	0.03	-0.06	0.08	-0.06	-0.08	0.08
28	13	0.00	-0.09	0.07	0.06	0.07	-0.06	0.09
28	14	0.00	0.47	-0.49	-0.08	-0.49	0.08	0.49
28	15	0.00	-0.13	0.06	0.02	0.06	-0.02	0.09
28	16	0.00	-0.09	0.02	0	0.02	0	0.05
28	17	0.00	0.40	-0.15	-0.36	-0.15	0.36	0.39
28	18	0.00	0.03	-0.03	0	-0.03	0	0.03
28	19	0.00	-0.01	-0.01	-0.01	-0.01	0.01	0.01
28	20	0.00	0.03	0.08	0.04	0.08	-0.04	0.08
28	21	0.00	0.28	0.33	0.28	0.33	-0.28	0.39
28	22	0.00	0.07	-0.03	0.06	-0.03	-0.06	0.07

28	23	0.00	0.43	-0.36	0.79	-0.36	-0.79	0.75
28	24	0.00	0.86	3.01	-1.51	3.01	1.51	2.79
28	25	0.00	-0.08	-0.03	-0.04	-0.03	0.04	0.06
28	26	0.00	0.03	-0.01	-0.03	-0.01	0.03	0.03
28	27	0.00	-0.12	-0.54	0.3	-0.54	-0.3	0.51
28	28	0.00	-0.13	-0.22	-0.02	-0.22	0.02	0.20
28	29	0.00	-0.04	-0.25	0.12	-0.25	-0.12	0.23
28	30	0.00	-0.21	-0.41	0.24	-0.41	-0.24	0.41
29	0	0.00	-7.60	-3.86	-1.24	-3.86	1.24	5.50
29	1	0.00	3.82	2.79	2.55	2.79	-2.55	3.79
29	2	0.00	-2.45	6.89	-5.72	6.89	5.72	7.45
29	3	0.00	-1.62	-1.56	-1.39	-1.56	1.39	1.95
29	4	0.00	-8.47	-5.80	-6.66	-5.8	6.66	8.71
29	5	0.00	-2.87	-2.75	-2.19	-2.75	2.19	3.31
29	6	0.00	-1.48	0.78	-1.48	0.78	1.48	1.61
29	7	0.00	0.28	-0.68	0.38	-0.68	-0.38	0.66
29	8	0.00	1.52	1.53	0.89	1.53	-0.89	1.69
29	9	0.00	1.24	1.20	0.69	1.2	-0.69	1.34
29	10	0.00	-0.07	-0.01	-0.06	-0.01	0.06	0.06
29	11	0.00	0.01	0.07	0.44	0.07	-0.44	0.36
29	12	0.00	0.18	0.15	0.01	0.15	-0.01	0.16
29	13	0.00	-0.36	-0.64	-0.57	-0.64	0.57	0.73
29	14	0.00	-0.12	-0.20	-0.04	-0.2	0.04	0.18
29	15	0.00	-0.29	-0.02	0.36	-0.02	-0.36	0.34
29	16	0.00	-0.06	0.07	0.08	0.07	-0.08	0.09
29	17	0.00	0.03	0.01	-0.03	0.01	0.03	0.03
29	18	0.00	-0.12	0.17	0.22	0.17	-0.22	0.24
29	19	0.00	0.03	-0.02	-0.04	-0.02	0.04	0.04
29	20	0.00	0.48	-0.55	0.02	-0.55	-0.02	0.53
29	21	0.00	0.02	0.13	0.04	0.13	-0.04	0.11
29	22	0.00	0.06	0.14	-0.13	0.14	0.13	0.16
29	23	0.00	0.38	0.33	-2.12	0.33	2.12	1.77
29	24	0.00	0.75	-0.22	-1.48	-0.22	1.48	1.30
29	25	0.00	0.10	0.36	0.51	0.36	-0.51	0.51
29	26	0.00	0.33	-0.28	-0.31	-0.28	0.31	0.39
29	27	0.00	2.02	-0.33	-1.59	-0.33	1.59	1.77
29	28	0.00	0.14	0.20	0.09	0.2	-0.09	0.20
29	29	0.00	1.39	0.86	-2.59	0.86	2.59	2.37
29	30	0.00	0.49	-1.06	-0.67	-1.06	0.67	1.06
30	0	0.00	-1.74	-2.38	-0.28	-2.38	0.28	2.20
30	1	0.00	2.21	1.70	1.23	1.7	-1.23	2.14
30	2	0.00	-1.50	3.82	-3.32	3.82	3.32	4.22
30	3	0.00	-0.72	-1.15	-0.22	-1.15	0.22	1.04
30	4	0.00	-4.16	-2.74	-3.54	-2.74	3.54	4.37

30	5	0.00	-1.32	-1.49	-0.83	-1.49	0.83	1.59
30	6	0.00	-0.88	0.69	-0.99	0.69	0.99	1.11
30	7	0.00	0.40	-0.40	0.49	-0.4	-0.49	0.57
30	8	0.00	0.40	0.52	0.1	0.52	-0.1	0.49
30	9	0.00	0.35	0.49	0.11	0.49	-0.11	0.46
30	10	0.00	-0.13	0.00	-0.03	0	0.03	0.08
30	11	0.00	0.38	-0.01	0.19	-0.01	-0.19	0.27
30	12	0.00	-0.11	0.08	0.07	0.08	-0.07	0.11
30	13	0.00	-0.18	-0.35	-0.28	-0.35	0.28	0.38
30	14	0.00	0.15	-0.13	-0.04	-0.13	0.04	0.14
30	15	0.00	0.51	-0.12	0.15	-0.12	-0.15	0.33
30	16	0.00	0.02	0.03	0.03	0.03	-0.03	0.04
30	17	0.00	-0.06	0.02	-0.02	0.02	0.02	0.04
30	18	0.00	-0.08	0.13	0.15	0.13	-0.15	0.17
30	19	0.00	0.01	0.00	-0.01	0	0.01	0.01
30	20	0.00	0.00	-0.27	0.03	-0.27	-0.03	0.22
30	21	0.00	0.09	-0.10	-0.5	-0.1	0.5	0.42
30	22	0.00	0.08	-0.07	0.08	-0.07	-0.08	0.10
30	23	0.00	0.35	-0.69	-0.41	-0.69	0.41	0.69
30	24	0.00	0.06	-0.26	-0.91	-0.26	0.91	0.77
30	25	0.00	0.25	0.18	0.24	0.18	-0.24	0.28
30	26	0.00	-0.11	0.50	0.29	0.5	-0.29	0.48
30	27	0.00	-0.35	0.33	-1.95	0.33	1.95	1.63
30	28	0.00	0.10	-0.02	-0.16	-0.02	0.16	0.14
30	29	0	0.42	0.84	-1.76	0.84	1.76	1.61
30	30	0	1.35	-0.62	-0.11	-0.62	0.11	0.93

Table S6. The TDMs of Gaq_3 calculated at the level of B3LYP/def2-SVP.

State	μ_X/a.u.	μ_Y/a.u.	μ_Z/a.u.	u/debye
1	0.143730	-0.168230	-0.030810	0.567897
2	-0.088670	0.404350	0.081930	1.072712
3	-0.235670	-0.906740	-0.178800	2.4245
4	-0.694340	0.057330	0.158060	1.816027
5	0.275630	-0.314660	-0.198390	1.176866
6	0.251820	-0.448800	-0.076670	1.322597
7	0.042500	-0.329930	-0.103490	0.885587
8	0.317580	0.283480	0.010330	1.082456
9	-0.018680	0.021510	0.071490	0.195585
10	-0.329610	-0.094100	0.058410	0.883907
11	0.060710	-0.162080	0.229950	0.731593
12	-0.174590	0.097960	0.210810	0.739018
13	0.291980	-0.101040	0.434560	1.355389

14	-0.388370	-0.060730	0.077210	1.018324
15	0.107180	-0.117410	0.331600	0.934786
16	0.017000	-0.046370	-0.028180	0.14447
17	-0.015560	-0.111970	0.001380	0.28737
18	0.133370	0.163990	-0.018310	0.539359
19	0.044030	0.025510	0.012300	0.133061
20	0.015040	-0.016140	0.061890	0.167077
21	-0.099190	0.035080	-0.144030	0.453375
22	0.004630	-0.058340	-0.030340	0.167656
23	0.061780	-0.006650	0.006240	0.158748
24	-0.084140	-0.038180	0.023440	0.242358
25	0.030860	-0.138610	-0.002410	0.361018
26	-0.113720	0.108410	-0.136100	0.528406
27	-0.052290	0.077570	-0.129260	0.405606
28	0.025200	0.029600	-0.103750	0.281692
29	0.163890	0.110550	-0.068520	0.53188
30	0.016750	-0.109570	-0.087190	0.358503

Table S7. The SOCs of Gaq_3 calculated at the level of B3LYP/def2-SVP.

Roots		<T_n|HSO|S_n> elements (Rm, Im) /cm^{-1}						SOC/cm^{-1}
T_n	S_n	Ms=0	Ms=0	Ms=1	Ms=-1	Ms=1	Ms=1	
1	0	0.00	0.44	-0.01	0.24	-0.01	-0.24	0.32
1	1	0.00	-1.07	0.14	1.01	0.14	-1.01	1.04
1	2	0.00	-0.38	0.03	0.38	0.03	-0.38	0.38
1	3	0.00	-0.06	0.37	-0.12	0.37	0.12	0.32
1	4	0.00	0.08	-0.63	0.24	-0.63	-0.24	0.55
1	5	0.00	0.32	-1.19	0.30	-1.19	-0.30	1.02
1	6	0.00	0.56	-1.06	-0.05	-1.06	0.05	0.92
1	7	0.00	-1.10	1.68	0.32	1.68	-0.32	1.53
1	8	0.00	0.04	0.52	-0.42	0.52	0.42	0.55
1	9	0.00	0.34	0.18	-0.55	0.18	0.55	0.51
1	10	0.00	0.05	0.05	-0.18	0.05	0.18	0.16
1	11	0.00	0.01	0.05	-0.09	0.05	0.09	0.08
1	12	0.00	0.03	-0.22	-0.07	-0.22	0.07	0.19
1	13	0.00	0.04	-0.04	-0.05	-0.04	0.05	0.06
1	14	0.00	-0.06	0.05	0.11	0.05	-0.11	0.10
1	15	0.00	0.01	0.09	0.04	0.09	-0.04	0.08
1	16	0.00	0.01	-0.02	0.00	-0.02	0.00	0.02
1	17	0.00	-0.07	0.19	-0.01	0.19	0.01	0.16
1	18	0.00	-0.01	0.00	0.01	0.00	-0.01	0.01
1	19	0.00	-0.13	-0.16	0.13	-0.16	-0.13	0.18

1	20	0.00	-0.03	-0.01	0.03	-0.01	-0.03	0.03
1	21	0.00	-0.01	-0.01	-0.01	-0.01	0.01	0.01
1	22	0.00	-1.13	-3.71	3.89	-3.71	-3.89	4.44
1	23	0.00	-1.61	-6.30	5.96	-6.30	-5.96	7.14
1	24	0.00	0.00	-0.09	0.04	-0.09	-0.04	0.08
1	25	0.00	0.10	0.00	-0.13	0.00	0.13	0.12
1	26	0.00	-0.10	0.20	-0.05	0.20	0.05	0.18
1	27	0.00	-0.25	0.65	0.03	0.65	-0.03	0.55
1	28	0.00	0.88	-1.58	-0.09	-1.58	0.09	1.39
1	29	0.00	-2.35	5.35	-0.14	5.35	0.14	4.58
1	30	0.00	-1.11	2.89	-0.14	2.89	0.14	2.45
2	0	0.00	0.01	-0.39	-0.02	-0.39	0.02	0.32
2	1	0.00	0.64	0.01	-0.59	0.01	0.59	0.61
2	2	0.00	0.08	-0.09	-0.57	-0.09	0.57	0.47
2	3	0.00	-0.25	-0.11	0.04	-0.11	-0.04	0.17
2	4	0.00	-0.47	-0.12	-0.46	-0.12	0.46	0.47
2	5	0.00	0.44	0.17	-0.09	0.17	0.09	0.30
2	6	0.00	-0.68	-0.17	-0.17	-0.17	0.17	0.44
2	7	0.00	0.28	0.05	-0.34	0.05	0.34	0.32
2	8	0.00	-1.89	-0.65	0.26	-0.65	-0.26	1.23
2	9	0.00	0.33	-0.09	1.35	-0.09	-1.35	1.12
2	10	0.00	0.07	0.02	-0.08	0.02	0.08	0.08
2	11	0.00	0.04	0.03	-0.03	0.03	0.03	0.04
2	12	0.00	0.04	0.01	0.03	0.01	-0.03	0.03
2	13	0.00	0.16	0.03	0.15	0.03	-0.15	0.16
2	14	0.00	0.03	0.01	0.02	0.01	-0.02	0.03
2	15	0.00	0.08	0.04	0.14	0.04	-0.14	0.13
2	16	0.00	0.15	0.21	0.07	0.21	-0.07	0.20
2	17	0.00	0.03	-0.01	0.09	-0.01	-0.09	0.08
2	18	0.00	0.06	-0.21	0.25	-0.21	-0.25	0.27
2	19	0.00	-2.49	0.74	-8.42	0.74	8.42	7.05
2	20	0.00	0.21	-0.14	0.87	-0.14	-0.87	0.73
2	21	0.00	-0.01	0.18	0.38	0.18	-0.38	0.34
2	22	0.00	-1.48	-0.20	-3.84	-0.20	3.84	3.25
2	23	0.00	1.18	0.20	2.76	0.20	-2.76	2.36
2	24	0.00	0.47	0.06	0.80	0.06	-0.80	0.71
2	25	0.00	4.33	1.04	6.27	1.04	-6.27	5.76
2	26	0.00	0.07	0.01	-0.05	0.01	0.05	0.06
2	27	0.00	0.01	0.00	0.00	0.00	0.00	0.01
2	28	0.00	0.14	0.04	0.28	0.04	-0.28	0.24
2	29	0.00	-0.56	-0.18	-0.97	-0.18	0.97	0.87
2	30	0.00	1.67	0.25	3.00	0.25	-3.00	2.64
3	0	0.00	0.02	-0.17	-0.50	-0.17	0.50	0.43
3	1	0.00	-1.30	0.85	-0.15	0.85	0.15	1.03

3	2	0.00	1.16	0.95	0.59	0.95	-0.59	1.13
3	3	0.00	0.12	0.83	0.31	0.83	-0.31	0.73
3	4	0.00	0.38	-0.71	-0.09	-0.71	0.09	0.62
3	5	0.00	0.66	-1.31	-0.35	-1.31	0.35	1.17
3	6	0.00	1.27	-0.63	0.16	-0.63	-0.16	0.91
3	7	0.00	-0.13	0.84	0.35	0.84	-0.35	0.75
3	8	0.00	-0.33	0.34	0.21	0.34	-0.21	0.38
3	9	0.00	-0.03	0.02	0.01	0.02	-0.01	0.03
3	10	0.00	0.10	0.01	0.07	0.01	-0.07	0.08
3	11	0.00	-0.27	-0.06	-0.20	-0.06	0.20	0.23
3	12	0.00	-0.07	0.16	0.04	0.16	-0.04	0.14
3	13	0.00	-0.06	-0.02	-0.04	-0.02	0.04	0.05
3	14	0.00	-0.03	0.00	-0.04	0.00	0.04	0.04
3	15	0.00	-0.02	-0.06	-0.03	-0.06	0.03	0.06
3	16	0.00	0.07	0.09	0.05	0.09	-0.05	0.09
3	17	0.00	0.06	-0.20	0.09	-0.20	-0.09	0.18
3	18	0.00	0.10	0.16	0.10	0.16	-0.10	0.16
3	19	0.00	-2.24	-3.95	-3.15	-3.95	3.15	4.32
3	20	0.00	-0.05	-0.13	0.01	-0.13	-0.01	0.11
3	21	0.00	-0.68	-0.92	-0.64	-0.92	0.64	1.00
3	22	0.00	3.42	5.97	3.75	5.97	-3.75	6.09
3	23	0.00	-1.98	-3.52	-2.33	-3.52	2.33	3.63
3	24	0.00	-0.28	-0.02	-0.18	-0.02	0.18	0.22
3	25	0.00	-1.49	0.94	0.06	0.94	-0.06	1.15
3	26	0.00	0.10	-0.17	-0.13	-0.17	0.13	0.18
3	27	0.00	0.02	-0.14	-0.07	-0.14	0.07	0.13
3	28	0.00	0.48	-0.25	0.05	-0.25	-0.05	0.35
3	29	0.00	-1.89	0.67	-0.43	0.67	0.43	1.27
3	30	0.00	3.07	-2.37	0.41	-2.37	-0.41	2.65
4	0	0.00	-0.38	0.95	0.88	0.95	-0.88	1.08
4	1	0.00	-0.35	0.39	-0.05	0.39	0.05	0.38
4	2	0.00	1.57	-2.10	-0.43	-2.10	0.43	1.97
4	3	0.00	-2.27	-0.24	0.75	-0.24	-0.75	1.46
4	4	0.00	0.71	-0.15	1.10	-0.15	-1.10	0.99
4	5	0.00	1.22	0.02	0.86	0.02	-0.86	0.99
4	6	0.00	0.00	0.10	0.01	0.10	-0.01	0.08
4	7	0.00	0.08	0.23	-0.16	0.23	0.16	0.23
4	8	0.00	0.04	0.07	0.02	0.07	-0.02	0.06
4	9	0.00	-0.02	0.00	0.02	0.00	-0.02	0.02
4	10	0.00	-0.26	-0.10	-0.11	-0.10	0.11	0.19
4	11	0.00	-0.08	-0.04	-0.02	-0.04	0.02	0.06
4	12	0.00	0.17	0.13	0.07	0.13	-0.07	0.16
4	13	0.00	0.10	0.03	0.07	0.03	-0.07	0.08
4	14	0.00	0.01	-0.08	0.05	-0.08	-0.05	0.08

4	15	0.00	-0.07	-0.11	-0.05	-0.11	0.05	0.11
4	16	0.00	0.02	0.02	-0.03	0.02	0.03	0.03
4	17	0.00	0.00	-0.08	0.00	-0.08	0.00	0.07
4	18	0.00	0.04	0.06	-0.14	0.06	0.14	0.13
4	19	0.00	-1.90	-1.15	5.69	-1.15	-5.69	4.87
4	20	0.00	0.13	0.01	-0.27	0.01	0.27	0.23
4	21	0.00	-0.07	-0.69	0.31	-0.69	-0.31	0.62
4	22	0.00	0.51	1.91	0.10	1.91	-0.10	1.59
4	23	0.00	-0.01	-1.10	-0.10	-1.10	0.10	0.90
4	24	0.00	0.23	-0.57	0.34	-0.57	-0.34	0.56
4	25	0.00	2.62	-6.10	3.12	-6.10	-3.12	5.80
4	26	0.00	0.01	0.39	-0.15	0.39	0.15	0.34
4	27	0.00	0.00	0.09	-0.04	0.09	0.04	0.08
4	28	0.00	0.00	0.42	-0.03	0.42	0.03	0.34
4	29	0.00	-0.10	-1.34	0.17	-1.34	-0.17	1.10
4	30	0.00	0.25	3.91	-0.50	3.91	0.50	3.22
5	0	0.00	2.20	-0.71	0.38	-0.71	-0.38	1.43
5	1	0.00	0.14	-2.10	-0.57	-2.10	0.57	1.78
5	2	0.00	0.68	0.07	0.22	0.07	-0.22	0.44
5	3	0.00	-0.16	0.05	-0.11	0.05	0.11	0.14
5	4	0.00	0.34	-0.63	-0.51	-0.63	0.51	0.69
5	5	0.00	0.10	-0.96	0.03	-0.96	-0.03	0.79
5	6	0.00	-1.51	-1.29	-0.31	-1.29	0.31	1.39
5	7	0.00	0.09	-0.02	-1.44	-0.02	1.44	1.18
5	8	0.00	0.70	0.42	-0.13	0.42	0.13	0.54
5	9	0.00	-0.22	-0.09	-0.22	-0.09	0.22	0.23
5	10	0.00	0.09	0.12	0.07	0.12	-0.07	0.12
5	11	0.00	0.13	0.06	0.09	0.06	-0.09	0.12
5	12	0.00	-0.05	0.08	-0.05	0.08	0.05	0.08
5	13	0.00	0.01	0.09	0.10	0.09	-0.10	0.11
5	14	0.00	0.01	0.09	-0.03	0.09	0.03	0.08
5	15	0.00	0.08	0.03	-0.03	0.03	0.03	0.06
5	16	0.00	-0.02	-0.02	-0.01	-0.02	0.01	0.02
5	17	0.00	0.02	-0.32	0.08	-0.32	-0.08	0.27
5	18	0.00	-0.06	-0.10	-0.06	-0.10	0.06	0.10
5	19	0.00	3.11	6.35	1.69	6.35	-1.69	5.66
5	20	0.00	-0.12	0.02	-0.05	0.02	0.05	0.08
5	21	0.00	0.11	0.21	-0.26	0.21	0.26	0.28
5	22	0.00	0.70	1.50	2.71	1.50	-2.71	2.56
5	23	0.00	0.09	-0.47	-1.38	-0.47	1.38	1.19
5	24	0.00	0.30	0.56	0.04	0.56	-0.04	0.49
5	25	0.00	3.14	5.25	1.89	5.25	-1.89	4.90
5	26	0.00	-0.01	-0.14	0.12	-0.14	-0.12	0.15
5	27	0.00	-0.03	0.00	0.05	0.00	-0.05	0.04

5	28	0.00	0.32	-0.25	0.26	-0.25	-0.26	0.35
5	29	0.00	-1.14	0.74	-0.89	0.74	0.89	1.15
5	30	0.00	2.35	0.62	2.76	0.62	-2.76	2.68
6	0	0.00	0.30	-2.22	-0.10	-2.22	0.10	1.82
6	1	0.00	-1.99	0.00	-0.71	0.00	0.71	1.29
6	2	0.00	-1.07	-0.30	-0.53	-0.30	0.53	0.79
6	3	0.00	0.42	-1.83	0.28	-1.83	-0.28	1.53
6	4	0.00	-0.41	0.47	0.21	0.47	-0.21	0.48
6	5	0.00	-0.08	-0.52	0.27	-0.52	-0.27	0.48
6	6	0.00	1.45	-1.46	-0.43	-1.46	0.43	1.50
6	7	0.00	0.55	-1.37	0.30	-1.37	-0.30	1.19
6	8	0.00	0.12	0.10	-0.54	0.10	0.54	0.45
6	9	0.00	-0.24	-0.17	0.56	-0.17	-0.56	0.50
6	10	0.00	0.10	0.09	0.12	0.09	-0.12	0.14
6	11	0.00	0.08	-0.01	0.01	-0.01	-0.01	0.05
6	12	0.00	0.02	0.13	0.00	0.13	0.00	0.11
6	13	0.00	0.03	0.04	-0.10	0.04	0.10	0.09
6	14	0.00	-0.14	0.31	-0.14	0.31	0.14	0.29
6	15	0.00	0.01	-0.10	-0.05	-0.10	0.05	0.09
6	16	0.00	-0.01	-0.02	0.04	-0.02	-0.04	0.04
6	17	0.00	0.02	0.03	-0.04	0.03	0.04	0.04
6	18	0.00	0.02	-0.04	0.04	-0.04	-0.04	0.05
6	19	0.00	-0.70	-1.04	-0.60	-1.04	0.60	1.06
6	20	0.00	0.12	0.07	-0.10	0.07	0.10	0.12
6	21	0.00	0.32	0.24	-0.50	0.24	0.50	0.49
6	22	0.00	-2.45	-3.62	3.85	-3.62	-3.85	4.54
6	23	0.00	1.38	1.82	-2.64	1.82	2.64	2.74
6	24	0.00	0.11	0.00	-0.26	0.00	0.26	0.22
6	25	0.00	-1.14	-1.76	0.58	-1.76	-0.58	1.65
6	26	0.00	-0.03	-0.34	0.19	-0.34	-0.19	0.32
6	27	0.00	0.00	-0.07	0.02	-0.07	-0.02	0.06
6	28	0.00	0.06	-1.11	0.38	-1.11	-0.38	0.96
6	29	0.00	-0.30	3.88	-1.25	3.88	1.25	3.33
6	30	0.00	0.86	-8.17	1.87	-8.17	-1.87	6.86
7	0	0.00	-2.16	-0.44	0.76	-0.44	-0.76	1.44
7	1	0.00	0.36	-0.05	-0.25	-0.05	0.25	0.29
7	2	0.00	-0.28	-0.10	-0.03	-0.10	0.03	0.18
7	3	0.00	1.29	-0.10	-0.38	-0.10	0.38	0.81
7	4	0.00	1.49	0.39	0.34	0.39	-0.34	0.96
7	5	0.00	-1.03	-0.23	0.22	-0.23	-0.22	0.65
7	6	0.00	0.03	0.10	0.58	0.10	-0.58	0.48
7	7	0.00	0.11	-0.34	0.02	-0.34	-0.02	0.29
7	8	0.00	-0.91	0.04	-0.24	0.04	0.24	0.56
7	9	0.00	0.06	1.39	0.03	1.39	-0.03	1.14

7	10	0.00	-0.09	-0.05	0.10	-0.05	-0.10	0.11
7	11	0.00	0.01	0.04	0.07	0.04	-0.07	0.07
7	12	0.00	-0.04	0.02	0.08	0.02	-0.08	0.07
7	13	0.00	0.11	0.07	-0.05	0.07	0.05	0.09
7	14	0.00	0.07	-0.07	-0.15	-0.07	0.15	0.14
7	15	0.00	0.00	0.08	0.06	0.08	-0.06	0.08
7	16	0.00	0.04	0.01	0.10	0.01	-0.10	0.09
7	17	0.00	0.01	0.05	0.02	0.05	-0.02	0.04
7	18	0.00	0.00	0.28	0.01	0.28	-0.01	0.23
7	19	0.00	-0.47	0.31	-2.26	0.31	2.26	1.88
7	20	0.00	0.00	-0.02	0.05	-0.02	-0.05	0.04
7	21	0.00	-0.11	0.05	-0.60	0.05	0.60	0.50
7	22	0.00	0.85	-0.95	4.92	-0.95	-4.92	4.12
7	23	0.00	-0.89	-0.76	-0.88	-0.76	0.88	1.08
7	24	0.00	0.09	0.15	-0.22	0.15	0.22	0.22
7	25	0.00	1.13	0.22	2.91	0.22	-2.91	2.47
7	26	0.00	0.15	-0.06	0.64	-0.06	-0.64	0.53
7	27	0.00	0.06	-0.03	0.47	-0.03	-0.47	0.39
7	28	0.00	-0.84	0.04	-1.47	0.04	1.47	1.29
7	29	0.00	2.81	-0.25	5.14	-0.25	-5.14	4.50
7	30	0.00	-1.60	-0.55	-2.57	-0.55	2.57	2.34
8	0	0.00	-0.96	2.25	0.48	2.25	-0.48	1.96
8	1	0.00	0.39	0.00	-0.48	0.00	0.48	0.45
8	2	0.00	-0.94	0.15	1.29	0.15	-1.29	1.19
8	3	0.00	0.67	-2.02	-0.07	-2.02	0.07	1.70
8	4	0.00	-0.18	0.05	-0.22	0.05	0.22	0.21
8	5	0.00	0.89	-1.46	-0.14	-1.46	0.14	1.30
8	6	0.00	-0.08	-0.90	0.20	-0.90	-0.20	0.75
8	7	0.00	0.25	-0.84	0.04	-0.84	-0.04	0.70
8	8	0.00	0.10	-0.32	-0.29	-0.32	0.29	0.36
8	9	0.00	-0.26	-0.41	-0.48	-0.41	0.48	0.54
8	10	0.00	0.03	-0.10	0.07	-0.10	-0.07	0.10
8	11	0.00	0.10	0.07	-0.22	0.07	0.22	0.20
8	12	0.00	-0.02	0.12	0.07	0.12	-0.07	0.11
8	13	0.00	-0.03	0.06	0.04	0.06	-0.04	0.06
8	14	0.00	0.11	-0.24	-0.05	-0.24	0.05	0.21
8	15	0.00	0.05	0.09	0.10	0.09	-0.10	0.11
8	16	0.00	0.00	0.05	0.00	0.05	0.00	0.04
8	17	0.00	-0.02	0.03	0.08	0.03	-0.08	0.07
8	18	0.00	0.01	-0.04	0.00	-0.04	0.00	0.03
8	19	0.00	0.14	0.17	0.58	0.17	-0.58	0.50
8	20	0.00	-0.01	0.04	0.01	0.04	-0.01	0.03
8	21	0.00	0.06	-0.11	0.10	-0.11	-0.10	0.13
8	22	0.00	-2.31	-2.59	-2.46	-2.59	2.46	3.21

8	23	0.00	-3.74	-4.63	-2.22	-4.63	2.22	4.72
8	24	0.00	-0.01	-0.04	0.07	-0.04	-0.07	0.07
8	25	0.00	0.06	0.61	-0.34	0.61	0.34	0.57
8	26	0.00	0.12	0.01	0.02	0.01	-0.02	0.07
8	27	0.00	0.05	-0.43	-0.14	-0.43	0.14	0.37
8	28	0.00	-0.40	1.45	0.17	1.45	-0.17	1.21
8	29	0.00	1.22	-4.53	-1.44	-4.53	1.44	3.94
8	30	0.00	1.56	-1.93	0.47	-1.93	-0.47	1.86
9	0	0.00	-0.91	-0.85	2.22	-0.85	-2.22	2.01
9	1	0.00	-0.19	0.02	0.19	0.02	-0.19	0.19
9	2	0.00	0.07	0.02	0.09	0.02	-0.09	0.09
9	3	0.00	0.18	0.33	-0.72	0.33	0.72	0.65
9	4	0.00	0.37	-0.24	-1.39	-0.24	1.39	1.17
9	5	0.00	0.25	0.37	0.16	0.37	-0.16	0.36
9	6	0.00	0.14	-0.25	0.09	-0.25	-0.09	0.23
9	7	0.00	-0.27	-0.03	-0.54	-0.03	0.54	0.47
9	8	0.00	0.49	-1.26	0.27	-1.26	-0.27	1.09
9	9	0.00	-0.13	0.37	-0.51	0.37	0.51	0.52
9	10	0.00	-0.02	0.01	0.00	0.01	0.00	0.01
9	11	0.00	0.00	-0.06	-0.03	-0.06	0.03	0.05
9	12	0.00	-0.01	-0.05	-0.04	-0.05	0.04	0.05
9	13	0.00	0.02	0.02	-0.30	0.02	0.30	0.25
9	14	0.00	-0.01	-0.01	-0.04	-0.01	0.04	0.03
9	15	0.00	-0.02	-0.03	-0.08	-0.03	0.08	0.07
9	16	0.00	-0.04	0.28	0.09	0.28	-0.09	0.24
9	17	0.00	0.04	-0.09	-0.03	-0.09	0.03	0.08
9	18	0.00	-0.02	-0.05	-0.01	-0.05	0.01	0.04
9	19	0.00	0.13	-0.15	0.89	-0.15	-0.89	0.74
9	20	0.00	0.04	0.01	-0.13	0.01	0.13	0.11
9	21	0.00	0.05	-0.01	0.24	-0.01	-0.24	0.20
9	22	0.00	0.34	0.06	1.46	0.06	-1.46	1.21
9	23	0.00	1.42	-0.23	5.86	-0.23	-5.86	4.86
9	24	0.00	-0.04	-0.03	0.09	-0.03	-0.09	0.08
9	25	0.00	-0.52	-0.07	-1.57	-0.07	1.57	1.32
9	26	0.00	0.10	0.05	0.18	0.05	-0.18	0.16
9	27	0.00	0.06	0.18	0.76	0.18	-0.76	0.64
9	28	0.00	-0.81	-0.40	-2.36	-0.40	2.36	2.01
9	29	0.00	2.11	1.10	5.80	1.10	-5.80	4.97
9	30	0.00	2.37	0.87	5.33	0.87	-5.33	4.62
10	0	0.00	0.07	-0.27	0.11	-0.27	-0.11	0.24
10	1	0.00	-0.17	0.05	-0.09	0.05	0.09	0.13
10	2	0.00	-0.07	0.04	-0.06	0.04	0.06	0.07
10	3	0.00	0.02	-0.20	0.04	-0.20	-0.04	0.17
10	4	0.00	0.00	0.17	-0.09	0.17	0.09	0.16

10	5	0.00	-0.05	0.21	-0.02	0.21	0.02	0.17
10	6	0.00	0.01	0.03	-0.02	0.03	0.02	0.03
10	7	0.00	0.10	-0.12	-0.06	-0.12	0.06	0.12
10	8	0.00	0.02	-0.08	0.06	-0.08	-0.06	0.08
10	9	0.00	-0.06	0.01	0.10	0.01	-0.10	0.09
10	10	0.00	0.18	-0.20	0.02	-0.20	-0.02	0.19
10	11	0.00	-0.31	0.57	0.09	0.57	-0.09	0.50
10	12	0.00	0.17	-0.21	-0.06	-0.21	0.06	0.20
10	13	0.00	-0.11	-0.05	0.18	-0.05	-0.18	0.17
10	14	0.00	0.00	-0.19	0.00	-0.19	0.00	0.16
10	15	0.00	0.15	-0.39	-0.04	-0.39	0.04	0.33
10	16	0.00	0.15	-0.08	-0.14	-0.08	0.14	0.16
10	17	0.00	-1.11	1.90	0.23	1.90	-0.23	1.69
10	18	0.00	-0.29	-0.32	0.59	-0.32	-0.59	0.57
10	19	0.00	0.03	0.04	-0.04	0.04	0.04	0.05
10	20	0.00	0.12	0.00	-0.12	0.00	0.12	0.12
10	21	0.00	0.02	0.00	-0.02	0.00	0.02	0.02
10	22	0.00	0.06	0.02	0.14	0.02	-0.14	0.12
10	23	0.00	0.29	0.31	-0.12	0.31	0.12	0.32
10	24	0.00	-0.06	0.19	-0.03	0.19	0.03	0.16
10	25	0.00	-0.07	0.04	0.02	0.04	-0.02	0.05
10	26	0.00	0.01	-0.06	0.03	-0.06	-0.03	0.06
10	27	0.00	0.03	-0.02	0.02	-0.02	-0.02	0.03
10	28	0.00	-0.05	-0.05	-0.10	-0.05	0.10	0.10
10	29	0.00	0.16	0.13	0.19	0.13	-0.19	0.21
10	30	0.00	0.17	-0.41	0.27	-0.41	-0.27	0.41
11	0	0.00	0.40	0.20	0.05	0.20	-0.05	0.29
11	1	0.00	-0.04	0.02	0.04	0.02	-0.04	0.04
11	2	0.00	0.06	0.00	0.03	0.00	-0.03	0.04
11	3	0.00	-0.26	-0.04	0.02	-0.04	-0.02	0.15
11	4	0.00	-0.43	-0.08	-0.19	-0.08	0.19	0.30
11	5	0.00	0.29	0.00	0.03	0.00	-0.03	0.17
11	6	0.00	-0.08	-0.05	-0.12	-0.05	0.12	0.12
11	7	0.00	0.01	0.04	-0.04	0.04	0.04	0.05
11	8	0.00	0.03	-0.02	0.06	-0.02	-0.06	0.05
11	9	0.00	0.00	-0.28	0.23	-0.28	-0.23	0.30
11	10	0.00	-0.62	-0.06	0.66	-0.06	-0.66	0.65
11	11	0.00	-0.06	0.06	0.56	0.06	-0.56	0.46
11	12	0.00	-0.01	-0.03	-0.07	-0.03	0.07	0.06
11	13	0.00	-0.01	-0.03	-0.03	-0.03	0.03	0.04
11	14	0.00	0.20	0.02	-0.24	0.02	0.24	0.23
11	15	0.00	0.06	-0.01	-0.20	-0.01	0.20	0.17
11	16	0.00	-0.07	0.01	0.00	0.01	0.00	0.04
11	17	0.00	-0.03	0.05	-0.06	0.05	0.06	0.07

11	18	0.00	0.05	-0.01	0.07	-0.01	-0.07	0.06
11	19	0.00	-0.08	-0.09	0.15	-0.09	-0.15	0.15
11	20	0.00	0.01	-0.01	0.00	-0.01	0.00	0.01
11	21	0.00	0.02	0.00	0.11	0.00	-0.11	0.09
11	22	0.00	-0.24	0.08	-0.99	0.08	0.99	0.82
11	23	0.00	0.09	0.00	0.11	0.00	-0.11	0.10
11	24	0.00	0.04	-0.01	0.05	-0.01	-0.05	0.05
11	25	0.00	-0.16	0.01	-0.50	0.01	0.50	0.42
11	26	0.00	0.22	0.08	-0.09	0.08	0.09	0.16
11	27	0.00	0.05	0.00	-0.04	0.00	0.04	0.04
11	28	0.00	0.07	-0.01	0.44	-0.01	-0.44	0.36
11	29	0.00	-0.45	-0.11	-0.86	-0.11	0.86	0.75
11	30	0.00	0.27	0.05	0.41	0.05	-0.41	0.37
12	0	0.00	0.03	0.22	0.14	0.22	-0.14	0.21
12	1	0.00	-0.07	-0.10	-0.07	-0.10	0.07	0.11
12	2	0.00	0.12	0.16	0.16	0.16	-0.16	0.20
12	3	0.00	-0.01	-0.10	0.03	-0.10	-0.03	0.09
12	4	0.00	0.04	-0.05	0.01	-0.05	-0.01	0.05
12	5	0.00	0.10	-0.20	-0.03	-0.20	0.03	0.17
12	6	0.00	-0.09	-0.10	0.01	-0.10	-0.01	0.10
12	7	0.00	0.04	0.17	0.00	0.17	0.00	0.14
12	8	0.00	0.01	0.04	0.01	0.04	-0.01	0.03
12	9	0.00	-0.01	0.01	-0.06	0.01	0.06	0.05
12	10	0.00	-0.26	0.48	0.08	0.48	-0.08	0.42
12	11	0.00	-0.03	0.08	-0.02	0.08	0.02	0.07
12	12	0.00	0.84	-1.58	-0.26	-1.58	0.26	1.39
12	13	0.00	0.15	-0.41	-0.11	-0.41	0.11	0.36
12	14	0.00	-0.14	0.29	0.04	0.29	-0.04	0.25
12	15	0.00	-0.61	1.13	0.21	1.13	-0.21	1.00
12	16	0.00	-0.20	-0.20	-0.25	-0.20	0.25	0.29
12	17	0.00	-0.07	-0.03	0.01	-0.03	-0.01	0.05
12	18	0.00	-0.01	-0.03	-0.05	-0.03	0.05	0.05
12	19	0.00	-0.03	0.14	0.04	0.14	-0.04	0.12
12	20	0.00	-0.02	0.00	0.00	0.00	0.00	0.01
12	21	0.00	-0.25	-0.11	-0.10	-0.11	0.10	0.19
12	22	0.00	0.04	-0.01	0.00	-0.01	0.00	0.02
12	23	0.00	-0.35	-0.36	-0.28	-0.36	0.28	0.42
12	24	0.00	-0.01	0.01	0.00	0.01	0.00	0.01
12	25	0.00	0.13	0.21	0.11	0.21	-0.11	0.21
12	26	0.00	-0.03	0.06	0.02	0.06	-0.02	0.05
12	27	0.00	0.10	-0.20	-0.05	-0.20	0.05	0.18
12	28	0.00	-0.03	0.14	0.03	0.14	-0.03	0.12
12	29	0.00	0.04	-0.31	-0.11	-0.31	0.11	0.27
12	30	0.00	0.14	0.00	0.03	0.00	-0.03	0.08

13	0	0.00	0.01	-0.12	0.08	-0.12	-0.08	0.12
13	1	0.00	0.02	-0.10	0.00	-0.10	0.00	0.08
13	2	0.00	0.03	-0.04	-0.04	-0.04	0.04	0.05
13	3	0.00	0.13	0.02	0.01	0.02	-0.01	0.08
13	4	0.00	-0.04	0.10	-0.02	0.10	0.02	0.09
13	5	0.00	-0.06	0.22	0.08	0.22	-0.08	0.19
13	6	0.00	-0.02	0.13	0.00	0.13	0.00	0.11
13	7	0.00	-0.03	-0.21	-0.04	-0.21	0.04	0.18
13	8	0.00	-0.01	-0.20	-0.02	-0.20	0.02	0.16
13	9	0.00	-0.05	-0.09	-0.04	-0.09	0.04	0.09
13	10	0.00	0.06	-0.04	-0.01	-0.04	0.01	0.05
13	11	0.00	-0.04	0.10	0.01	0.10	-0.01	0.09
13	12	0.00	-0.01	-0.01	0.00	-0.01	0.00	0.01
13	13	0.00	0.01	0.02	-0.04	0.02	0.04	0.04
13	14	0.00	-0.01	0.00	0.00	0.00	0.00	0.01
13	15	0.00	0.03	-0.10	-0.01	-0.10	0.01	0.08
13	16	0.00	0.01	-0.01	0.00	-0.01	0.00	0.01
13	17	0.00	-0.05	0.15	0.03	0.15	-0.03	0.13
13	18	0.00	-0.02	-0.01	-0.01	-0.01	0.01	0.02
13	19	0.00	0.01	-0.01	0.05	-0.01	-0.05	0.04
13	20	0.00	-1.04	-0.14	1.11	-0.14	-1.11	1.09
13	21	0.00	0.06	0.02	-0.05	0.02	0.05	0.06
13	22	0.00	0.64	0.16	-0.42	0.16	0.42	0.52
13	23	0.00	0.93	0.50	-0.82	0.50	0.82	0.95
13	24	0.00	0.33	-1.16	0.30	-1.16	-0.30	1.00
13	25	0.00	-0.13	0.12	-0.08	0.12	0.08	0.14
13	26	0.00	0.05	0.20	0.00	0.20	0.00	0.17
13	27	0.00	0.03	-0.02	0.06	-0.02	-0.06	0.05
13	28	0.00	-0.27	0.26	-0.08	0.26	0.08	0.27
13	29	0.00	0.62	-0.80	0.47	-0.80	-0.47	0.84
13	30	0.00	0.29	-0.47	0.25	-0.47	-0.25	0.47
14	0	0.00	0.09	-0.09	0.03	-0.09	-0.03	0.09
14	1	0.00	0.00	-0.16	-0.14	-0.16	0.14	0.17
14	2	0.00	0.00	-0.01	0.08	-0.01	-0.08	0.07
14	3	0.00	-0.03	-0.08	0.05	-0.08	-0.05	0.08
14	4	0.00	-0.04	0.05	-0.03	0.05	0.03	0.05
14	5	0.00	-0.01	0.12	0.00	0.12	0.00	0.10
14	6	0.00	-0.08	0.05	0.12	0.05	-0.12	0.12
14	7	0.00	0.11	-0.10	-0.05	-0.10	0.05	0.11
14	8	0.00	-0.11	0.01	0.14	0.01	-0.14	0.13
14	9	0.00	-0.04	-0.07	0.06	-0.07	-0.06	0.08
14	10	0.00	-0.07	0.02	0.05	0.02	-0.05	0.06
14	11	0.00	0.02	0.04	0.08	0.04	-0.08	0.07
14	12	0.00	-0.05	0.12	-0.01	0.12	0.01	0.10

14	13	0.00	0.02	0.04	0.00	0.04	0.00	0.03
14	14	0.00	0.08	-0.01	-0.06	-0.01	0.06	0.07
14	15	0.00	0.06	-0.11	-0.05	-0.11	0.05	0.10
14	16	0.00	0.03	0.05	0.03	0.05	-0.03	0.05
14	17	0.00	-0.02	0.02	0.00	0.02	0.00	0.02
14	18	0.00	-0.03	-0.01	0.03	-0.01	-0.03	0.03
14	19	0.00	-0.04	0.25	-0.33	0.25	0.33	0.34
14	20	0.00	0.02	0.02	0.12	0.02	-0.12	0.10
14	21	0.00	-1.11	-0.24	-0.34	-0.24	0.34	0.73
14	22	0.00	-0.95	-0.18	-0.41	-0.18	0.41	0.66
14	23	0.00	0.71	0.19	0.30	0.19	-0.30	0.50
14	24	0.00	-0.22	-0.14	-0.01	-0.14	0.01	0.17
14	25	0.00	1.28	0.10	0.74	0.10	-0.74	0.96
14	26	0.00	-1.63	-0.23	-0.13	-0.23	0.13	0.97
14	27	0.00	-0.04	-0.67	-0.44	-0.67	0.44	0.65
14	28	0.00	0.05	0.37	-0.88	0.37	0.88	0.78
14	29	0.00	0.29	0.01	-0.26	0.01	0.26	0.27
14	30	0.00	0.01	0.37	0.43	0.37	-0.43	0.46
15	0	0.00	0.12	-0.16	-0.07	-0.16	0.07	0.16
15	1	0.00	0.00	-0.08	0.11	-0.08	-0.11	0.11
15	2	0.00	0.01	-0.05	-0.13	-0.05	0.13	0.11
15	3	0.00	0.01	-0.05	0.03	-0.05	-0.03	0.05
15	4	0.00	-0.05	0.20	0.12	0.20	-0.12	0.19
15	5	0.00	-0.04	0.10	-0.06	0.10	0.06	0.10
15	6	0.00	-0.02	0.10	0.06	0.10	-0.06	0.10
15	7	0.00	0.09	-0.11	0.02	-0.11	-0.02	0.11
15	8	0.00	0.00	0.07	-0.05	0.07	0.05	0.07
15	9	0.00	0.14	-0.02	-0.10	-0.02	0.10	0.12
15	10	0.00	0.06	-0.01	-0.05	-0.01	0.05	0.05
15	11	0.00	-0.02	0.00	-0.03	0.00	0.03	0.03
15	12	0.00	-0.11	0.13	0.02	0.13	-0.02	0.12
15	13	0.00	0.03	0.03	0.01	0.03	-0.01	0.03
15	14	0.00	0.00	-0.02	0.05	-0.02	-0.05	0.04
15	15	0.00	-0.03	-0.13	-0.01	-0.13	0.01	0.11
15	16	0.00	0.05	0.02	0.01	0.02	-0.01	0.03
15	17	0.00	-0.02	0.02	0.01	0.02	-0.01	0.02
15	18	0.00	-0.02	0.00	-0.05	0.00	0.05	0.04
15	19	0.00	0.94	-0.02	0.33	-0.02	-0.33	0.61
15	20	0.00	-0.11	-0.02	-0.11	-0.02	0.11	0.11
15	21	0.00	-1.38	-0.32	-0.58	-0.32	0.58	0.96
15	22	0.00	-0.74	-0.28	0.01	-0.28	-0.01	0.48
15	23	0.00	0.37	0.22	0.00	0.22	0.00	0.28
15	24	0.00	0.26	0.09	0.04	0.09	-0.04	0.17
15	25	0.00	-0.65	-0.23	-0.42	-0.23	0.42	0.54

15	26	0.00	1.05	0.61	0.28	0.61	-0.28	0.82
15	27	0.00	0.69	-0.70	0.05	-0.70	-0.05	0.70
15	28	0.00	-0.35	-0.01	0.79	-0.01	-0.79	0.68
15	29	0.00	0.28	-0.04	0.35	-0.04	-0.35	0.33
15	30	0.00	-0.94	0.21	-0.33	0.21	0.33	0.63
16	0	0.00	0.11	-0.13	0.33	-0.13	-0.33	0.30
16	1	0.00	-0.28	-0.06	-0.14	-0.06	0.14	0.20
16	2	0.00	0.00	-0.05	-0.05	-0.05	0.05	0.06
16	3	0.00	-0.20	-0.06	0.09	-0.06	-0.09	0.15
16	4	0.00	0.03	-0.03	0.12	-0.03	-0.12	0.10
16	5	0.00	0.06	-0.08	0.24	-0.08	-0.24	0.21
16	6	0.00	-0.01	-0.07	-0.01	-0.07	0.01	0.06
16	7	0.00	0.03	-0.11	-0.08	-0.11	0.08	0.11
16	8	0.00	0.06	0.01	-0.03	0.01	0.03	0.04
16	9	0.00	-0.02	-0.01	-0.02	-0.01	0.02	0.02
16	10	0.00	-0.12	0.14	0.00	0.14	0.00	0.13
16	11	0.00	-1.17	2.10	0.35	2.10	-0.35	1.86
16	12	0.00	0.06	0.02	-0.10	0.02	0.10	0.09
16	13	0.00	-0.42	-0.24	0.47	-0.24	-0.47	0.49
16	14	0.00	0.06	-0.30	-0.05	-0.30	0.05	0.25
16	15	0.00	0.11	-0.22	-0.03	-0.22	0.03	0.19
16	16	0.00	-0.11	0.08	0.14	0.08	-0.14	0.15
16	17	0.00	0.37	-0.60	-0.08	-0.60	0.08	0.54
16	18	0.00	0.03	0.10	-0.15	0.10	0.15	0.15
16	19	0.00	-0.02	0.00	0.19	0.00	-0.19	0.16
16	20	0.00	-0.01	0.00	-0.02	0.00	0.02	0.02
16	21	0.00	0.03	-0.03	0.01	-0.03	-0.01	0.03
16	22	0.00	0.02	0.00	0.06	0.00	-0.06	0.05
16	23	0.00	-0.06	0.20	-0.08	0.20	0.08	0.18
16	24	0.00	0.01	0.03	-0.02	0.03	0.02	0.03
16	25	0.00	-0.11	0.06	-0.06	0.06	0.06	0.09
16	26	0.00	0.12	0.03	-0.05	0.03	0.05	0.08
16	27	0.00	0.03	0.00	-0.01	0.00	0.01	0.02
16	28	0.00	0.02	0.03	0.01	0.03	-0.01	0.03
16	29	0.00	0.07	-0.09	-0.01	-0.09	0.01	0.08
16	30	0.00	0.01	-0.07	-0.01	-0.07	0.01	0.06
17	0	0.00	-0.21	0.21	0.41	0.21	-0.41	0.40
17	1	0.00	0.06	0.03	0.01	0.03	-0.01	0.04
17	2	0.00	0.25	0.07	0.17	0.07	-0.17	0.21
17	3	0.00	0.06	-0.01	0.00	-0.01	0.00	0.04
17	4	0.00	0.03	0.06	0.01	0.06	-0.01	0.05
17	5	0.00	-0.04	0.14	-0.05	0.14	0.05	0.12
17	6	0.00	-0.26	-0.02	-0.02	-0.02	0.02	0.15
17	7	0.00	0.02	-0.01	-0.27	-0.01	0.27	0.22

17	8	0.00	0.07	-0.01	-0.03	-0.01	0.03	0.05
17	9	0.00	0.00	0.02	-0.05	0.02	0.05	0.04
17	10	0.00	-1.08	2.10	0.26	2.10	-0.26	1.84
17	11	0.00	0.08	-0.17	-0.08	-0.17	0.08	0.16
17	12	0.00	-0.07	0.16	0.12	0.16	-0.12	0.17
17	13	0.00	-0.01	-0.11	-0.59	-0.11	0.59	0.49
17	14	0.00	0.10	-0.21	-0.09	-0.21	0.09	0.20
17	15	0.00	0.28	-0.56	-0.10	-0.56	0.10	0.49
17	16	0.00	0.18	-0.01	-0.14	-0.01	0.14	0.15
17	17	0.00	-0.05	0.22	0.07	0.22	-0.07	0.19
17	18	0.00	-0.05	-0.08	-0.03	-0.08	0.03	0.08
17	19	0.00	-0.06	0.15	0.17	0.15	-0.17	0.19
17	20	0.00	-0.01	0.01	-0.05	0.01	0.05	0.04
17	21	0.00	0.02	0.11	0.00	0.11	0.00	0.09
17	22	0.00	0.11	-0.24	0.00	-0.24	0.00	0.21
17	23	0.00	-0.05	0.13	0.03	0.13	-0.03	0.11
17	24	0.00	0.00	0.02	0.00	0.02	0.00	0.02
17	25	0.00	0.06	0.06	-0.09	0.06	0.09	0.09
17	26	0.00	0.09	0.02	0.12	0.02	-0.12	0.11
17	27	0.00	-0.01	0.06	0.05	0.06	-0.05	0.06
17	28	0.00	0.03	-0.01	0.06	-0.01	-0.06	0.05
17	29	0.00	0.01	-0.03	0.06	-0.03	-0.06	0.06
17	30	0.00	-0.01	0.18	-0.04	0.18	0.04	0.15
18	0	0.00	-0.09	-0.48	-0.07	-0.48	0.07	0.40
18	1	0.00	-0.18	-0.08	-0.08	-0.08	0.08	0.14
18	2	0.00	-0.05	0.05	0.02	0.05	-0.02	0.05
18	3	0.00	0.01	-0.13	-0.08	-0.13	0.08	0.12
18	4	0.00	0.04	-0.12	-0.06	-0.12	0.06	0.11
18	5	0.00	-0.03	-0.26	-0.15	-0.26	0.15	0.25
18	6	0.00	0.06	-0.06	0.02	-0.06	-0.02	0.06
18	7	0.00	0.07	-0.08	-0.09	-0.08	0.09	0.11
18	8	0.00	-0.02	0.00	0.00	0.00	0.00	0.01
18	9	0.00	0.01	-0.05	0.06	-0.05	-0.06	0.06
18	10	0.00	-0.22	0.44	0.05	0.44	-0.05	0.38
18	11	0.00	-0.02	0.08	0.00	0.08	0.00	0.07
18	12	0.00	-0.46	0.97	0.20	0.97	-0.20	0.85
18	13	0.00	-0.08	0.19	-0.13	0.19	0.13	0.19
18	14	0.00	0.43	-0.75	-0.15	-0.75	0.15	0.67
18	15	0.00	-0.74	1.51	0.23	1.51	-0.23	1.32
18	16	0.00	-0.56	0.08	0.75	0.08	-0.75	0.70
18	17	0.00	-0.22	0.36	0.13	0.36	-0.13	0.34
18	18	0.00	-0.12	-0.05	0.15	-0.05	-0.15	0.15
18	19	0.00	-0.01	-0.04	-0.06	-0.04	0.06	0.06
18	20	0.00	-0.01	-0.02	0.02	-0.02	-0.02	0.02

18	21	0.00	0.14	-0.29	-0.04	-0.29	0.04	0.25
18	22	0.00	0.13	0.02	0.01	0.02	-0.01	0.08
18	23	0.00	0.13	-0.24	-0.04	-0.24	0.04	0.21
18	24	0.00	-0.01	0.00	0.02	0.00	-0.02	0.02
18	25	0.00	-0.01	0.11	0.00	0.11	0.00	0.09
18	26	0.00	-0.06	0.11	0.06	0.11	-0.06	0.11
18	27	0.00	0.01	-0.02	0.01	-0.02	-0.01	0.02
18	28	0.00	0.00	0.00	0.01	0.00	-0.01	0.01
18	29	0.00	-0.09	0.11	0.01	0.11	-0.01	0.10
18	30	0.00	0.07	-0.04	0.01	-0.04	-0.01	0.05
19	0	0.00	1.58	0.29	0.91	0.29	-0.91	1.20
19	1	0.00	0.49	0.10	-1.55	0.10	1.55	1.30
19	2	0.00	0.56	1.74	-0.13	1.74	0.13	1.46
19	3	0.00	0.26	-0.03	0.84	-0.03	-0.84	0.70
19	4	0.00	0.75	-0.19	1.74	-0.19	-1.74	1.49
19	5	0.00	-0.13	0.22	-0.96	0.22	0.96	0.81
19	6	0.00	0.13	0.01	-0.08	0.01	0.08	0.10
19	7	0.00	-0.04	-0.11	-0.19	-0.11	0.19	0.18
19	8	0.00	-0.14	0.22	-0.11	0.22	0.11	0.22
19	9	0.00	-0.41	-0.09	0.45	-0.09	-0.45	0.44
19	10	0.00	0.10	0.03	-0.04	0.03	0.04	0.07
19	11	0.00	-0.03	-0.09	-0.15	-0.09	0.15	0.14
19	12	0.00	-0.18	-0.05	0.20	-0.05	-0.20	0.20
19	13	0.00	-0.08	0.00	-0.03	0.00	0.03	0.05
19	14	0.00	0.17	-0.03	-0.12	-0.03	0.12	0.14
19	15	0.00	0.15	-0.17	-0.27	-0.17	0.27	0.27
19	16	0.00	-0.06	0.06	0.05	0.06	-0.05	0.07
19	17	0.00	-0.04	-0.07	-0.06	-0.07	0.06	0.08
19	18	0.00	-0.17	0.05	0.22	0.05	-0.22	0.21
19	19	0.00	0.92	0.15	-2.76	0.15	2.76	2.32
19	20	0.00	-0.37	0.02	0.44	0.02	-0.44	0.42
19	21	0.00	0.14	-0.13	0.06	-0.13	-0.06	0.14
19	22	0.00	0.25	1.52	-0.93	1.52	0.93	1.46
19	23	0.00	-0.19	-0.22	0.31	-0.22	-0.31	0.33
19	24	0.00	0.19	0.02	0.25	0.02	-0.25	0.23
19	25	0.00	1.06	-0.01	1.76	-0.01	-1.76	1.56
19	26	0.00	0.23	-0.07	-0.08	-0.07	0.08	0.16
19	27	0.00	0.09	-0.02	-0.01	-0.02	0.01	0.06
19	28	0.00	-0.04	0.04	0.10	0.04	-0.10	0.09
19	29	0.00	0.04	-0.33	-0.11	-0.33	0.11	0.28
19	30	0.00	1.12	-0.56	0.70	-0.56	-0.70	0.98
20	0	0.00	-0.13	-0.21	0.35	-0.21	-0.35	0.34
20	1	0.00	0.02	0.33	-0.45	0.33	0.45	0.46
20	2	0.00	-0.01	0.48	0.22	0.48	-0.22	0.43

20	3	0.00	0.05	0.34	-0.22	0.34	0.22	0.33
20	4	0.00	0.22	-0.06	0.73	-0.06	-0.73	0.61
20	5	0.00	-0.05	-0.66	-0.11	-0.66	0.11	0.55
20	6	0.00	0.27	-0.48	-0.38	-0.48	0.38	0.52
20	7	0.00	-0.36	0.42	-0.06	0.42	0.06	0.40
20	8	0.00	0.17	0.34	0.21	0.34	-0.21	0.34
20	9	0.00	-0.14	-0.10	0.09	-0.10	-0.09	0.14
20	10	0.00	-0.08	0.13	0.05	0.13	-0.05	0.12
20	11	0.00	0.02	-0.08	-0.03	-0.08	0.03	0.07
20	12	0.00	-0.01	-0.21	0.07	-0.21	-0.07	0.18
20	13	0.00	-0.02	0.00	-0.07	0.00	0.07	0.06
20	14	0.00	0.24	-0.44	0.02	-0.44	-0.02	0.39
20	15	0.00	0.06	-0.27	-0.07	-0.27	0.07	0.23
20	16	0.00	0.01	0.05	0.01	0.05	-0.01	0.04
20	17	0.00	0.12	-0.07	0.01	-0.07	-0.01	0.09
20	18	0.00	0.07	0.19	0.09	0.19	-0.09	0.18
20	19	0.00	0.63	-1.87	0.38	-1.87	-0.38	1.60
20	20	0.00	0.01	-0.03	-0.06	-0.03	0.06	0.06
20	21	0.00	0.21	-0.41	-0.18	-0.41	0.18	0.39
20	22	0.00	-0.98	2.24	1.26	2.24	-1.26	2.17
20	23	0.00	1.22	-2.94	-0.68	-2.94	0.68	2.56
20	24	0.00	0.13	-0.02	-0.12	-0.02	0.12	0.12
20	25	0.00	-0.36	0.23	-0.63	0.23	0.63	0.59
20	26	0.00	0.01	-0.12	-0.08	-0.12	0.08	0.12
20	27	0.00	0.03	0.04	-0.07	0.04	0.07	0.07
20	28	0.00	0.22	-0.33	-0.09	-0.33	0.09	0.31
20	29	0.00	-0.67	1.12	0.06	1.12	-0.06	0.99
20	30	0.00	0.40	-0.61	-0.96	-0.61	0.96	0.96
21	0	0.00	0.45	0.14	-0.25	0.14	0.25	0.35
21	1	0.00	0.04	-0.26	-0.22	-0.26	0.22	0.28
21	2	0.00	0.14	0.18	0.07	0.18	-0.07	0.18
21	3	0.00	0.53	-0.03	0.42	-0.03	-0.42	0.46
21	4	0.00	-0.22	0.11	0.46	0.11	-0.46	0.41
21	5	0.00	0.00	0.30	0.35	0.30	-0.35	0.38
21	6	0.00	0.02	0.39	-0.16	0.39	0.16	0.34
21	7	0.00	-0.27	-0.84	0.02	-0.84	-0.02	0.70
21	8	0.00	0.11	0.10	-0.80	0.10	0.80	0.66
21	9	0.00	0.04	0.04	-0.92	0.04	0.92	0.75
21	10	0.00	0.06	-0.01	0.02	-0.01	-0.02	0.04
21	11	0.00	0.06	-0.03	-0.02	-0.03	0.02	0.05
21	12	0.00	0.04	0.13	-0.14	0.13	0.14	0.16
21	13	0.00	0.01	0.04	-0.08	0.04	0.08	0.07
21	14	0.00	0.05	-0.21	-0.07	-0.21	0.07	0.18
21	15	0.00	-0.05	0.09	0.19	0.09	-0.19	0.17

21	16	0.00	-0.04	0.02	0.05	0.02	-0.05	0.05
21	17	0.00	0.01	-0.09	-0.06	-0.09	0.06	0.09
21	18	0.00	0.00	-0.04	0.07	-0.04	-0.07	0.07
21	19	0.00	-0.07	-0.33	0.45	-0.33	-0.45	0.46
21	20	0.00	0.07	-0.02	-0.10	-0.02	0.10	0.09
21	21	0.00	0.06	-0.13	-0.04	-0.13	0.04	0.12
21	22	0.00	-1.27	2.62	0.12	2.62	-0.12	2.26
21	23	0.00	-1.57	3.30	-0.87	3.30	0.87	2.93
21	24	0.00	0.00	0.01	-0.09	0.01	0.09	0.07
21	25	0.00	-0.06	-0.06	-0.36	-0.06	0.36	0.30
21	26	0.00	0.18	-0.17	-0.06	-0.17	0.06	0.18
21	27	0.00	0.02	-0.37	0.13	-0.37	-0.13	0.32
21	28	0.00	-0.46	0.80	0.02	0.80	-0.02	0.71
21	29	0.00	1.23	-2.71	0.39	-2.71	-0.39	2.35
21	30	0.00	0.96	-1.90	-0.08	-1.90	0.08	1.65
22	0	0.00	-0.58	-0.75	-1.24	-0.75	1.24	1.23
22	1	0.00	-0.34	-0.09	1.18	-0.09	-1.18	0.99
22	2	0.00	-0.47	-1.35	-0.01	-1.35	0.01	1.14
22	3	0.00	0.08	0.13	-0.56	0.13	0.56	0.47
22	4	0.00	-0.33	0.22	-1.23	0.22	1.23	1.04
22	5	0.00	-0.01	-0.20	0.86	-0.20	-0.86	0.72
22	6	0.00	-0.09	0.04	0.09	0.04	-0.09	0.10
22	7	0.00	-0.01	-0.15	0.11	-0.15	-0.11	0.15
22	8	0.00	0.13	-0.06	0.10	-0.06	-0.10	0.12
22	9	0.00	0.20	0.41	-0.49	0.41	0.49	0.53
22	10	0.00	0.09	-0.04	-0.06	-0.04	0.06	0.08
22	11	0.00	-0.06	0.01	0.02	0.01	-0.02	0.04
22	12	0.00	-0.61	0.07	0.40	0.07	-0.40	0.48
22	13	0.00	-0.13	0.03	0.22	0.03	-0.22	0.20
22	14	0.00	-0.01	0.14	0.15	0.14	-0.15	0.17
22	15	0.00	0.04	-0.07	-0.55	-0.07	0.55	0.45
22	16	0.00	0.01	0.00	-0.01	0.00	0.01	0.01
22	17	0.00	0.06	0.05	0.08	0.05	-0.08	0.08
22	18	0.00	0.11	0.03	-0.15	0.03	0.15	0.14
22	19	0.00	-0.38	-0.16	1.10	-0.16	-1.10	0.93
22	20	0.00	0.27	-0.03	-0.26	-0.03	0.26	0.26
22	21	0.00	-0.06	0.08	0.06	0.08	-0.06	0.09
22	22	0.00	-0.43	0.05	0.60	0.05	-0.60	0.55
22	23	0.00	-0.44	0.61	-0.10	0.61	0.10	0.57
22	24	0.00	-0.12	0.05	-0.11	0.05	0.11	0.12
22	25	0.00	-0.84	0.15	-0.47	0.15	0.47	0.63
22	26	0.00	-0.08	-0.05	-0.05	-0.05	0.05	0.07
22	27	0.00	-0.06	-0.03	0.08	-0.03	-0.08	0.08
22	28	0.00	-0.06	0.11	-0.07	0.11	0.07	0.11

22	29	0.00	0.15	-0.40	0.18	-0.40	-0.18	0.37
22	30	0.00	-0.38	-0.15	-0.15	-0.15	0.15	0.28
23	0	0.00	5.57	0.60	4.09	0.60	-4.09	4.66
23	1	0.00	0.78	-0.63	-5.48	-0.63	5.48	4.53
23	2	0.00	3.41	6.55	0.91	6.55	-0.91	5.75
23	3	0.00	0.66	-0.06	2.98	-0.06	-2.98	2.46
23	4	0.00	1.32	0.23	7.29	0.23	-7.29	6.00
23	5	0.00	-0.16	0.70	-3.75	0.70	3.75	3.12
23	6	0.00	0.10	-0.83	-0.07	-0.83	0.07	0.68
23	7	0.00	0.08	-0.22	-0.06	-0.22	0.06	0.19
23	8	0.00	0.02	0.34	-1.47	0.34	1.47	1.23
23	9	0.00	0.16	-0.17	1.30	-0.17	-1.30	1.07
23	10	0.00	0.00	-0.01	0.05	-0.01	-0.05	0.04
23	11	0.00	-0.04	-0.10	-0.13	-0.10	0.13	0.14
23	12	0.00	0.02	0.00	0.15	0.00	-0.15	0.12
23	13	0.00	0.02	-0.01	-0.76	-0.01	0.76	0.62
23	14	0.00	-0.33	0.39	0.01	0.39	-0.01	0.37
23	15	0.00	0.18	-0.15	-0.06	-0.15	0.06	0.17
23	16	0.00	-0.02	0.00	0.06	0.00	-0.06	0.05
23	17	0.00	0.04	0.04	0.12	0.04	-0.12	0.11
23	18	0.00	-0.01	-0.03	-0.01	-0.03	0.01	0.03
23	19	0.00	-0.91	-0.33	-0.02	-0.33	0.02	0.59
23	20	0.00	-0.82	0.34	0.52	0.34	-0.52	0.69
23	21	0.00	0.91	-0.08	-0.21	-0.08	0.21	0.56
23	22	0.00	1.52	0.29	0.01	0.29	-0.01	0.91
23	23	0.00	0.36	-0.47	-1.25	-0.47	1.25	1.11
23	24	0.00	0.28	-0.06	-0.29	-0.06	0.29	0.29
23	25	0.00	3.72	-1.23	-1.94	-1.23	1.94	2.85
23	26	0.00	0.27	-0.10	0.05	-0.10	-0.05	0.18
23	27	0.00	0.20	0.05	-0.10	0.05	0.10	0.15
23	28	0.00	0.05	-0.15	0.04	-0.15	-0.04	0.13
23	29	0.00	0.18	0.24	0.13	0.24	-0.13	0.25
23	30	0.00	1.49	-0.26	-2.21	-0.26	2.21	2.01
24	0	0.00	-0.55	0.20	-0.92	0.20	0.92	0.83
24	1	0.00	-0.05	0.42	0.18	0.42	-0.18	0.37
24	2	0.00	-0.21	-0.45	-0.01	-0.45	0.01	0.39
24	3	0.00	-0.14	0.14	-0.21	0.14	0.21	0.22
24	4	0.00	0.03	-0.04	-0.48	-0.04	0.48	0.39
24	5	0.00	0.11	-0.33	0.31	-0.33	-0.31	0.38
24	6	0.00	0.14	-0.08	0.00	-0.08	0.00	0.10
24	7	0.00	-0.02	-0.61	-0.05	-0.61	0.05	0.50
24	8	0.00	0.06	0.07	0.05	0.07	-0.05	0.08
24	9	0.00	-0.09	-0.10	-0.28	-0.10	0.28	0.25
24	10	0.00	-0.07	0.20	0.02	0.20	-0.02	0.17

24	11	0.00	-0.17	0.21	-0.05	0.21	0.05	0.20
24	12	0.00	-0.24	0.57	0.03	0.57	-0.03	0.49
24	13	0.00	0.04	-0.12	0.07	-0.12	-0.07	0.12
24	14	0.00	-0.66	1.50	0.04	1.50	-0.04	1.28
24	15	0.00	-0.13	0.29	-0.02	0.29	0.02	0.25
24	16	0.00	0.08	0.06	0.03	0.06	-0.03	0.07
24	17	0.00	-0.12	0.13	-0.13	0.13	0.13	0.17
24	18	0.00	-0.20	-0.31	-0.34	-0.31	0.34	0.39
24	19	0.00	0.20	-0.76	0.11	-0.76	-0.11	0.64
24	20	0.00	0.06	-0.07	-0.04	-0.07	0.04	0.07
24	21	0.00	0.02	-0.16	-0.03	-0.16	0.03	0.13
24	22	0.00	-0.64	2.10	0.15	2.10	-0.15	1.76
24	23	0.00	-0.04	0.64	-0.91	0.64	0.91	0.91
24	24	0.00	-0.01	-0.07	-0.02	-0.07	0.02	0.06
24	25	0.00	-0.56	0.24	0.02	0.24	-0.02	0.38
24	26	0.00	0.03	-0.07	-0.08	-0.07	0.08	0.09
24	27	0.00	0.01	-0.18	0.01	-0.18	-0.01	0.15
24	28	0.00	-0.16	0.25	-0.05	0.25	0.05	0.23
24	29	0.00	0.47	-1.21	0.04	-1.21	-0.04	1.03
24	30	0.00	0.53	-1.25	-0.11	-1.25	0.11	1.07
25	0	0.00	0.76	0.29	0.20	0.29	-0.20	0.52
25	1	0.00	-0.08	-0.13	-0.85	-0.13	0.85	0.70
25	2	0.00	0.78	1.19	0.35	1.19	-0.35	1.11
25	3	0.00	0.07	-0.04	0.76	-0.04	-0.76	0.62
25	4	0.00	0.33	0.11	1.44	0.11	-1.44	1.19
25	5	0.00	-0.16	0.14	-0.56	0.14	0.56	0.48
25	6	0.00	0.16	0.29	0.06	0.29	-0.06	0.26
25	7	0.00	0.04	-0.60	-0.11	-0.60	0.11	0.50
25	8	0.00	0.09	0.13	-0.41	0.13	0.41	0.36
25	9	0.00	-0.04	-0.04	-0.01	-0.04	0.01	0.04
25	10	0.00	0.08	-0.14	-0.08	-0.14	0.08	0.14
25	11	0.00	0.11	-0.23	-0.05	-0.23	0.05	0.20
25	12	0.00	0.21	-0.31	-0.06	-0.31	0.06	0.28
25	13	0.00	-0.03	0.05	-0.04	0.05	0.04	0.06
25	14	0.00	0.66	-0.53	-0.36	-0.53	0.36	0.65
25	15	0.00	0.18	-0.20	-0.27	-0.20	0.27	0.29
25	16	0.00	-0.04	-0.07	-0.05	-0.07	0.05	0.07
25	17	0.00	-0.08	-0.13	-0.32	-0.13	0.32	0.29
25	18	0.00	0.06	0.07	0.24	0.07	-0.24	0.21
25	19	0.00	-0.90	-0.40	3.24	-0.40	-3.24	2.72
25	20	0.00	-0.05	0.06	-0.24	0.06	0.24	0.20
25	21	0.00	0.27	0.07	-0.14	0.07	0.14	0.20
25	22	0.00	0.13	0.14	0.96	0.14	-0.96	0.80
25	23	0.00	-0.13	1.85	-1.77	1.85	1.77	2.09

25	24	0.00	-0.04	-0.24	-0.42	-0.24	0.42	0.40
25	25	0.00	-0.07	-0.62	-2.82	-0.62	2.82	2.36
25	26	0.00	0.20	0.00	0.08	0.00	-0.08	0.13
25	27	0.00	0.05	-0.13	0.07	-0.13	-0.07	0.12
25	28	0.00	-0.38	0.37	0.00	0.37	0.00	0.37
25	29	0.00	0.92	-1.08	0.68	-1.08	-0.68	1.17
25	30	0.00	0.01	-0.57	-1.86	-0.57	1.86	1.59
26	0	0.00	0.32	-0.57	-0.39	-0.57	0.39	0.59
26	1	0.00	0.44	0.11	-0.26	0.11	0.26	0.34
26	2	0.00	-0.19	-0.05	-0.48	-0.05	0.48	0.41
26	3	0.00	-0.35	-0.08	0.34	-0.08	-0.34	0.35
26	4	0.00	-0.15	0.01	-0.40	0.01	0.40	0.34
26	5	0.00	0.27	0.22	0.01	0.22	-0.01	0.24
26	6	0.00	-0.12	0.63	-0.21	0.63	0.21	0.55
26	7	0.00	-0.05	-0.67	-0.19	-0.67	0.19	0.57
26	8	0.00	-0.35	-0.26	-0.53	-0.26	0.53	0.52
26	9	0.00	0.31	0.07	-0.16	0.07	0.16	0.23
26	10	0.00	-0.01	0.03	0.09	0.03	-0.09	0.08
26	11	0.00	0.04	0.00	-0.06	0.00	0.06	0.05
26	12	0.00	0.12	-0.23	0.14	-0.23	-0.14	0.23
26	13	0.00	0.00	0.04	-0.02	0.04	0.02	0.04
26	14	0.00	0.31	-0.56	-0.01	-0.56	0.01	0.49
26	15	0.00	0.08	-0.18	0.00	-0.18	0.00	0.15
26	16	0.00	0.07	-0.03	-0.06	-0.03	0.06	0.07
26	17	0.00	0.10	-0.03	0.10	-0.03	-0.10	0.10
26	18	0.00	0.13	-0.07	0.21	-0.07	-0.21	0.20
26	19	0.00	0.27	1.05	-3.15	1.05	3.15	2.72
26	20	0.00	-0.16	-0.09	0.39	-0.09	-0.39	0.34
26	21	0.00	-0.19	0.12	0.24	0.12	-0.24	0.25
26	22	0.00	-0.10	0.75	-2.48	0.75	2.48	2.12
26	23	0.00	-0.66	2.66	0.56	2.66	-0.56	2.25
26	24	0.00	0.09	-0.15	0.42	-0.15	-0.42	0.37
26	25	0.00	1.02	0.20	2.85	0.20	-2.85	2.41
26	26	0.00	-0.10	-0.05	-0.04	-0.05	0.04	0.08
26	27	0.00	0.01	-0.23	-0.08	-0.23	0.08	0.20
26	28	0.00	-0.26	0.55	-0.03	0.55	0.03	0.47
26	29	0.00	0.88	-1.88	-0.48	-1.88	0.48	1.66
26	30	0.00	0.75	-0.69	1.89	-0.69	-1.89	1.70
27	0	0.00	-0.77	-0.14	-1.03	-0.14	1.03	0.96
27	1	0.00	-0.37	0.47	-0.03	0.47	0.03	0.44
27	2	0.00	0.37	0.30	0.04	0.30	-0.04	0.33
27	3	0.00	-0.15	0.67	-0.34	0.67	0.34	0.62
27	4	0.00	0.22	-0.39	-0.12	-0.39	0.12	0.36
27	5	0.00	0.07	-0.70	0.35	-0.70	-0.35	0.64

27	6	0.00	0.01	-0.40	0.09	-0.40	-0.09	0.33
27	7	0.00	0.23	-0.15	-0.09	-0.15	0.09	0.20
27	8	0.00	0.29	0.22	0.39	0.22	-0.39	0.40
27	9	0.00	-0.11	-0.19	-0.31	-0.19	0.31	0.30
27	10	0.00	0.05	-0.01	0.00	-0.01	0.00	0.03
27	11	0.00	-0.02	-0.07	-0.03	-0.07	0.03	0.06
27	12	0.00	0.22	-0.32	-0.14	-0.32	0.14	0.31
27	13	0.00	0.01	-0.04	0.03	-0.04	-0.03	0.04
27	14	0.00	0.13	-0.19	-0.04	-0.19	0.04	0.18
27	15	0.00	0.05	-0.05	0.00	-0.05	0.00	0.05
27	16	0.00	-0.02	0.13	0.00	0.13	0.00	0.11
27	17	0.00	-0.04	-0.06	0.03	-0.06	-0.03	0.06
27	18	0.00	0.06	0.12	0.11	0.12	-0.11	0.14
27	19	0.00	0.32	-1.51	-1.15	-1.51	1.15	1.56
27	20	0.00	0.05	-0.12	0.05	-0.12	-0.05	0.11
27	21	0.00	0.13	-0.33	-0.10	-0.33	0.10	0.29
27	22	0.00	-0.08	3.25	1.07	3.25	-1.07	2.79
27	23	0.00	0.18	-2.21	-0.57	-2.21	0.57	1.87
27	24	0.00	0.11	0.01	-0.01	0.01	0.01	0.06
27	25	0.00	-0.46	0.47	0.63	0.47	-0.63	0.69
27	26	0.00	0.08	-0.19	-0.19	-0.19	0.19	0.22
27	27	0.00	-0.12	0.11	0.10	0.11	-0.10	0.14
27	28	0.00	0.21	-0.11	-0.08	-0.11	0.08	0.16
27	29	0.00	-0.59	0.19	-0.22	0.19	0.22	0.42
27	30	0.00	0.96	-0.91	0.18	-0.91	-0.18	0.94
28	0	0.00	0.24	0.15	0.51	0.15	-0.51	0.46
28	1	0.00	0.12	-0.23	0.02	-0.23	-0.02	0.20
28	2	0.00	-0.14	-0.11	-0.02	-0.11	0.02	0.12
28	3	0.00	0.11	-0.17	-0.26	-0.17	0.26	0.26
28	4	0.00	-0.16	0.10	0.13	0.10	-0.13	0.16
28	5	0.00	0.02	-0.01	-0.16	-0.01	0.16	0.13
28	6	0.00	-0.18	-0.49	-0.14	-0.49	0.14	0.43
28	7	0.00	-0.08	0.76	0.15	0.76	-0.15	0.63
28	8	0.00	-0.05	0.34	0.13	0.34	-0.13	0.30
28	9	0.00	0.27	-0.14	0.41	-0.14	-0.41	0.39
28	10	0.00	0.14	0.09	-0.10	0.09	0.10	0.14
28	11	0.00	-0.01	0.07	-0.23	0.07	0.23	0.20
28	12	0.00	-0.01	0.17	-0.09	0.17	0.09	0.16
28	13	0.00	0.01	0.06	0.04	0.06	-0.04	0.06
28	14	0.00	0.16	0.26	-0.35	0.26	0.35	0.37
28	15	0.00	0.11	0.05	-0.04	0.05	0.04	0.08
28	16	0.00	0.01	-0.07	0.04	-0.07	-0.04	0.07
28	17	0.00	-0.16	-0.19	-0.40	-0.19	0.40	0.37
28	18	0.00	0.08	0.02	-0.04	0.02	0.04	0.06

28	19	0.00	0.22	0.37	-1.30	0.37	1.30	1.11
28	20	0.00	-0.02	0.04	0.15	0.04	-0.15	0.13
28	21	0.00	-0.04	0.05	0.09	0.05	-0.09	0.09
28	22	0.00	0.35	-1.55	-0.38	-1.55	0.38	1.32
28	23	0.00	0.66	-2.04	1.47	-2.04	-1.47	2.09
28	24	0.00	0.08	0.14	0.14	0.14	-0.14	0.17
28	25	0.00	0.57	0.10	1.05	0.10	-1.05	0.92
28	26	0.00	-0.17	0.03	-0.05	0.03	0.05	0.11
28	27	0.00	-0.01	0.20	-0.12	0.20	0.12	0.19
28	28	0.00	0.34	-0.53	-0.02	-0.53	0.02	0.48
28	29	0.00	-0.89	1.69	-0.49	1.69	0.49	1.53
28	30	0.00	-0.51	1.12	0.44	1.12	-0.44	1.03
29	0	0.00	-13.93	-4.36	-4.34	-4.36	4.34	9.48
29	1	0.00	0.44	-1.00	-0.84	-1.00	0.84	1.10
29	2	0.00	0.33	1.37	0.50	1.37	-0.50	1.21
29	3	0.00	0.73	0.42	-4.69	0.42	4.69	3.87
29	4	0.00	-0.36	1.45	2.28	1.45	-2.28	2.22
29	5	0.00	-1.68	0.28	1.68	0.28	-1.68	1.70
29	6	0.00	-2.60	-8.20	-1.15	-8.20	1.15	6.93
29	7	0.00	-0.40	-2.27	-1.22	-2.27	1.22	2.12
29	8	0.00	1.89	1.32	5.78	1.32	-5.78	4.96
29	9	0.00	-0.83	-0.61	-2.86	-0.61	2.86	2.44
29	10	0.00	-0.04	0.16	0.11	0.16	-0.11	0.16
29	11	0.00	-0.06	-0.17	-0.03	-0.17	0.03	0.15
29	12	0.00	-0.18	-0.22	-0.22	-0.22	0.22	0.27
29	13	0.00	0.13	-0.06	0.34	-0.06	-0.34	0.29
29	14	0.00	-0.25	0.50	0.40	0.50	-0.40	0.54
29	15	0.00	-0.08	-0.66	-0.26	-0.66	0.26	0.58
29	16	0.00	-0.04	0.00	-0.08	0.00	0.08	0.07
29	17	0.00	-0.07	-0.05	-0.01	-0.05	0.01	0.06
29	18	0.00	-0.09	-0.02	-0.13	-0.02	0.13	0.12
29	19	0.00	2.33	1.05	1.15	1.05	-1.15	1.85
29	20	0.00	-0.06	-0.05	0.11	-0.05	-0.11	0.10
29	21	0.00	-0.13	0.24	0.33	0.24	-0.33	0.34
29	22	0.00	-0.05	-0.50	-1.09	-0.50	1.09	0.98
29	23	0.00	0.06	-0.81	0.64	-0.81	-0.64	0.84
29	24	0.00	1.69	-0.08	-0.24	-0.08	0.24	1.00
29	25	0.00	0.02	-0.28	1.32	-0.28	-1.32	1.10
29	26	0.00	-0.08	-0.52	-0.47	-0.52	0.47	0.57
29	27	0.00	0.29	-0.31	-0.02	-0.31	0.02	0.30
29	28	0.00	-0.33	0.53	-0.19	0.53	0.19	0.50
29	29	0.00	1.20	-1.67	0.49	-1.67	-0.49	1.58
29	30	0.00	-1.32	-1.02	-2.01	-1.02	2.01	1.99
30	0	0.00	-5.67	-1.95	-1.33	-1.95	1.33	3.80

30	1	0.00	0.34	-0.39	-0.35	-0.39	0.35	0.47
30	2	0.00	0.03	0.13	0.00	0.13	0.00	0.11
30	3	0.00	0.25	0.26	-1.92	0.26	1.92	1.59
30	4	0.00	-0.07	0.48	1.49	0.48	-1.49	1.28
30	5	0.00	-0.81	0.28	0.36	0.28	-0.36	0.60
30	6	0.00	-1.12	-3.65	-0.49	-3.65	0.49	3.08
30	7	0.00	-0.07	-0.74	-0.47	-0.74	0.47	0.72
30	8	0.00	0.84	0.63	2.51	0.63	-2.51	2.17
30	9	0.00	-0.34	-0.31	-0.96	-0.31	0.96	0.85
30	10	0.00	0.16	0.08	-0.12	0.08	0.12	0.15
30	11	0.00	0.11	-0.04	-0.17	-0.04	0.17	0.16
30	12	0.00	0.14	-0.09	-0.30	-0.09	0.30	0.27
30	13	0.00	0.10	0.01	0.11	0.01	-0.11	0.11
30	14	0.00	0.38	0.23	-0.35	0.23	0.35	0.41
30	15	0.00	0.10	-0.28	-0.21	-0.28	0.21	0.29
30	16	0.00	-0.04	0.00	-0.01	0.00	0.01	0.02
30	17	0.00	0.09	-0.02	-0.11	-0.02	0.11	0.11
30	18	0.00	-0.09	-0.01	-0.05	-0.01	0.05	0.07
30	19	0.00	0.33	0.65	0.89	0.65	-0.89	0.92
30	20	0.00	-0.03	-0.04	0.07	-0.04	-0.07	0.07
30	21	0.00	-0.09	-0.01	0.17	-0.01	-0.17	0.15
30	22	0.00	-0.17	-0.17	-0.70	-0.17	0.70	0.60
30	23	0.00	0.26	-0.83	0.52	-0.83	-0.52	0.81
30	24	0.00	-1.44	-0.73	-0.85	-0.73	0.85	1.24
30	25	0.00	0.49	-0.90	1.37	-0.90	-1.37	1.37
30	26	0.00	0.48	-0.03	0.02	-0.03	-0.02	0.28
30	27	0.00	0.34	-0.05	0.03	-0.05	-0.03	0.20
30	28	0.00	-0.02	0.22	-0.02	0.22	0.02	0.18
30	29	0.00	0.53	-0.67	0.12	-0.67	-0.12	0.63
30	30	0.00	-0.74	-0.01	-0.95	-0.01	0.95	0.89

Table S8. The TDMs of $Al(qBr_2)_3$ calculated at the level of B3LYP/def2-SVP.

State	μ_X/a.u.	μ_Y/a.u.	μ_Z/a.u.	u/debye
1	0.24885	-0.04039	-0.05818	0.657686
2	-0.45106	-0.14359	0.09195	1.225761
3	0.54251	0.86805	-0.1014	2.614803
4	0.54102	-0.62572	-0.20293	2.165032
5	0.2901	0.08761	-0.12629	0.834535
6	-0.59011	-0.02159	0.08192	1.515446
7	0.25436	0.1119	-0.05405	0.719615
8	-0.07992	-0.4879	0.00924	1.256993
9	-0.0105	-0.10381	0.03998	0.283977

10	-0.08433	0.31731	0.12539	0.893396
11	0.25337	-0.02345	0.29345	0.987331
12	-0.17925	0.03949	0.18119	0.655619
13	-0.30419	0.28998	-0.22415	1.21075
14	-0.07038	0.28847	0.17	0.869758
15	0.22521	-0.04056	0.18344	0.745547
16	0.03098	-0.01051	0.07225	0.201605
17	0.10791	-0.0282	0.03407	0.296446
18	-0.05949	-0.10644	0.16363	0.518718
19	0.22404	-0.11913	0.16976	0.776039
20	0.05721	-0.22191	0.08251	0.619122
21	0.04738	-0.10024	-0.08141	0.349652
22	0.00288	-0.01023	0.01346	0.043289
23	0.06034	0.00182	0.03203	0.173714
24	0.4392	-0.11024	0.34161	1.441899
25	0.10105	-0.0093	0.0612	0.301203
26	-0.10312	0.07927	-0.12421	0.457207
27	-0.01582	-0.01985	-0.00757	0.067255
28	0.20958	0.09692	0.26794	0.899128
29	-0.05317	0.02833	-0.00399	0.153576
30	-0.01978	0.021	0.01905	0.088057

Table S9. The SOCs of $Al(qBr_2)_3$ calculated at the level of B3LYP/def2-SVP.

Roots		$<T_n\|HSO\|S_n>$ elements (Rm, Im) /cm^{-1}						SOC/cm^{-1}
T_n	S_n	Ms=0	Ms=0	Ms=1	Ms=-1	Ms=1	Ms=1	
1	0	0.00	0.47	-0.09	0.01	-0.09	-0.01	0.28
1	1	0.00	-1.97	0.71	0.3	0.71	-0.3	1.30
1	2	0.00	-0.29	0.35	-0.02	0.35	0.02	0.33
1	3	0.00	0.51	0.43	-0.56	0.43	0.56	0.65
1	4	0.00	-0.01	0.02	-0.15	0.02	0.15	0.12
1	5	0.00	0.58	-0.1	0.25	-0.1	-0.25	0.40
1	6	0.00	-2.36	-0.19	0.58	-0.19	-0.58	1.45
1	7	0.00	-4.82	-0.82	1.79	-0.82	-1.79	3.21
1	8	0.00	-0.61	-0.96	1.11	-0.96	-1.11	1.25
1	9	0.00	-0.91	-1.32	1.48	-1.32	-1.48	1.70
1	10	0.00	0.73	-0.66	0.05	-0.66	-0.05	0.69
1	11	0.00	0.14	-0.04	-0.21	-0.04	0.21	0.19
1	12	0.00	0.17	0.3	-0.68	0.3	0.68	0.61
1	13	0.00	-0.13	-0.09	0.08	-0.09	-0.08	0.12
1	14	0.00	-0.61	0.55	0.07	0.55	-0.07	0.57
1	15	0.00	-0.21	0.1	0.24	0.1	-0.24	0.24

1	16	0.00	-0.25	0.1	0.07	0.1	-0.07	0.18
1	17	0.00	-0.01	-0.01	0	-0.01	0	0.01
1	18	0.00	0.19	0.11	-0.15	0.11	0.15	0.19
1	19	0.00	-0.26	-0.18	0.12	-0.18	-0.12	0.23
1	20	0.00	0.27	-0.19	-0.09	-0.19	0.09	0.23
1	21	0.00	0.5	-0.62	0.02	-0.62	-0.02	0.58
1	22	0.00	-43.71	57.97	-6.87	57.97	6.87	53.93
1	23	0.00	3.79	-3.14	1.88	-3.14	-1.88	3.70
1	24	0.00	0.2	0.08	0.2	0.08	-0.2	0.21
1	25	0.00	-0.66	-0.2	-0.31	-0.2	0.31	0.49
1	26	0.00	-0.21	-1.14	0.03	-1.14	-0.03	0.94
1	27	0.00	-35.08	0.88	18.49	0.88	-18.49	25.27
1	28	0.00	-1.38	-1.49	-0.34	-1.49	0.34	1.48
1	29	0.00	32.28	-1.38	-15.89	-1.38	15.89	22.74
1	30	0.00	-270.27	5.09	143.64	5.09	-143.64	195.25
2	0	0.00	-0.18	0.93	0.51	0.93	-0.51	0.87
2	1	0.00	-2.72	1.09	-1.24	1.09	1.24	2.07
2	2	0.00	7.22	-0.01	-0.26	-0.01	0.26	4.17
2	3	0.00	1.09	-0.26	0.36	-0.26	-0.36	0.73
2	4	0.00	-1.51	-0.35	-0.03	-0.35	0.03	0.92
2	5	0.00	-0.05	0.25	-0.51	0.25	0.51	0.46
2	6	0.00	-2.4	0.14	-0.13	0.14	0.13	1.39
2	7	0.00	1.02	-0.02	0.02	-0.02	-0.02	0.59
2	8	0.00	1.99	-0.01	0.3	-0.01	-0.3	1.17
2	9	0.00	-0.22	-0.14	-0.43	-0.14	0.43	0.39
2	10	0.00	-0.23	0.15	0.03	0.15	-0.03	0.18
2	11	0.00	0.4	0.14	0.09	0.14	-0.09	0.27
2	12	0.00	-0.69	0.07	-0.15	0.07	0.15	0.42
2	13	0.00	-1.1	0.01	-0.5	0.01	0.5	0.76
2	14	0.00	0.12	0.11	0.14	0.11	-0.14	0.16
2	15	0.00	-0.67	-0.05	-0.26	-0.05	0.26	0.44
2	16	0.00	1.53	-1.25	-0.19	-1.25	0.19	1.36
2	17	0.00	-0.79	0.45	-0.63	0.45	0.63	0.78
2	18	0.00	0.46	0.47	0.46	0.47	-0.46	0.60
2	19	0.00	0.29	0.71	0.54	0.71	-0.54	0.75
2	20	0.00	-1.88	-0.38	-0.87	-0.38	0.87	1.33
2	21	0.00	-0.38	0.38	0	0.38	0	0.38
2	22	0.00	0.39	-0.27	0.24	-0.27	-0.24	0.37
2	23	0.00	1.44	0.61	2.2	0.61	-2.2	2.04
2	24	0.00	4.66	13.27	10.66	13.27	-10.66	14.16
2	25	0.00	-42.58	-38.95	-44.83	-38.95	44.83	54.37
2	26	0.00	1.13	0.09	0.53	0.09	-0.53	0.79
2	27	0.00	7.15	-2.75	8.27	-2.75	-8.27	8.23

2	28	0.00	-25.9	8.5	-6.73	8.5	6.73	17.38
2	29	0.00	279.7	-101.93	66.71	-101.93	-66.71	189.66
2	30	0.00	32.07	-10.87	6.1	-10.87	-6.1	21.13
3	0	0.00	-0.21	-1	3.12	-1	-3.12	2.68
3	1	0.00	3.77	0.97	-0.89	0.97	0.89	2.43
3	2	0.00	0.61	0.13	-0.95	0.13	0.95	0.86
3	3	0.00	0.67	0.71	-1.12	0.71	1.12	1.15
3	4	0.00	5.81	0.44	-0.49	0.44	0.49	3.40
3	5	0.00	-0.96	-0.65	0.8	-0.65	-0.8	1.01
3	6	0.00	3.74	0.37	-0.13	0.37	0.13	2.18
3	7	0.00	-0.59	-0.5	0.95	-0.5	-0.95	0.94
3	8	0.00	-4.22	-0.39	0.24	-0.39	-0.24	2.46
3	9	0.00	2.86	0.19	-0.02	0.19	0.02	1.66
3	10	0.00	0.03	-0.11	-0.06	-0.11	0.06	0.10
3	11	0.00	0.13	0.28	0.13	0.28	-0.13	0.26
3	12	0.00	-0.02	-0.09	0.03	-0.09	-0.03	0.08
3	13	0.00	-0.74	-0.11	-0.18	-0.11	0.18	0.46
3	14	0.00	0.28	0.23	-0.23	0.23	0.23	0.31
3	15	0.00	-0.73	-0.33	0.72	-0.33	-0.72	0.77
3	16	0.00	-0.73	-0.16	0.91	-0.16	-0.91	0.86
3	17	0.00	-0.7	-0.02	-0.3	-0.02	0.3	0.47
3	18	0.00	0.81	0.78	-0.23	0.78	0.23	0.81
3	19	0.00	0.33	-0.04	-0.11	-0.04	0.11	0.21
3	20	0.00	-0.27	0.02	-0.28	0.02	0.28	0.28
3	21	0.00	-0.82	-0.23	1.12	-0.23	-1.12	1.05
3	22	0.00	-3.37	0.15	-3.64	0.15	3.64	3.55
3	23	0.00	-47.67	-11.99	-58.56	-11.99	58.56	56.03
3	24	0.00	0.94	0.86	1.46	0.86	-1.46	1.49
3	25	0.00	-1.36	-1.36	-1.36	-1.36	1.36	1.76
3	26	0.00	-1.95	-0.77	-0.3	-0.77	0.3	1.31
3	27	0.00	-19.22	7.6	15.78	7.6	-15.78	18.10
3	28	0.00	-3.28	-0.52	-0.18	-0.52	0.18	1.95
3	29	0.00	37.57	5.42	-2.17	5.42	2.17	22.21
3	30	0.00	1.29	-1.73	-0.54	-1.73	0.54	1.66
4	0	0.00	-5.84	5.27	1.28	5.27	-1.28	5.57
4	1	0.00	1.38	0.47	-0.47	0.47	0.47	0.96
4	2	0.00	-6.22	-1.26	1.8	-1.26	-1.8	4.01
4	3	0.00	2.94	-0.51	0.41	-0.51	-0.41	1.78
4	4	0.00	0.51	1.73	-1.33	1.73	1.33	1.81
4	5	0.00	-2.42	-0.15	-0.42	-0.15	0.42	1.44
4	6	0.00	0.2	0.11	-0.02	0.11	0.02	0.15
4	7	0.00	-0.55	-0.13	0.38	-0.13	-0.38	0.46
4	8	0.00	-1.79	-0.14	0.11	-0.14	-0.11	1.04

4	9	0.00	0.9	-0.03	0.16	-0.03	-0.16	0.54
4	10	0.00	-0.05	-0.04	-0.07	-0.04	0.07	0.07
4	11	0.00	-0.5	-0.23	-0.18	-0.23	0.18	0.37
4	12	0.00	-0.5	0.12	-0.23	0.12	0.23	0.36
4	13	0.00	0.19	0.74	1.08	0.74	-1.08	1.07
4	14	0.00	0.43	-0.3	0.17	-0.3	-0.17	0.38
4	15	0.00	-1.16	-0.79	0.54	-0.79	-0.54	1.03
4	16	0.00	0.32	0.04	-0.39	0.04	0.39	0.37
4	17	0.00	-0.01	0.28	0.09	0.28	-0.09	0.24
4	18	0.00	0.88	0.61	-0.1	0.61	0.1	0.72
4	19	0.00	1.72	0.97	-0.23	0.97	0.23	1.28
4	20	0.00	-0.01	0.43	0.36	0.43	-0.36	0.46
4	21	0.00	-0.47	0.07	0.54	0.07	-0.54	0.52
4	22	0.00	-4.73	0.89	-0.97	0.89	0.97	2.93
4	23	0.00	-5.3	-1.44	-6.59	-1.44	6.59	6.30
4	24	0.00	2.07	1.74	0.31	1.74	-0.31	1.87
4	25	0.00	0.94	0.04	-0.59	0.04	0.59	0.73
4	26	0.00	-1.17	-0.19	0.36	-0.19	-0.36	0.75
4	27	0.00	319.33	-28.06	-158.92	-28.06	158.92	226.61
4	28	0.00	0.51	1.06	0.29	1.06	-0.29	0.94
4	29	0.00	-20.76	-2.2	9.54	-2.2	-9.54	14.41
4	30	0.00	-34.42	3.03	16.51	3.03	-16.51	24.14
5	0	0.00	2.27	-0.01	0.23	-0.01	-0.23	1.32
5	1	0.00	-4.01	-1	1.82	-1	-1.82	2.87
5	2	0.00	-1.59	-0.16	0.11	-0.16	-0.11	0.93
5	3	0.00	3.41	0.3	-0.66	0.3	0.66	2.06
5	4	0.00	-6.31	0.64	-0.43	0.64	0.43	3.70
5	5	0.00	-4.4	-0.24	0.4	-0.24	-0.4	2.57
5	6	0.00	1.19	0.49	-0.92	0.49	0.92	1.09
5	7	0.00	-1.92	0.13	0.92	0.13	-0.92	1.34
5	8	0.00	-4	0.78	-0.79	0.78	0.79	2.48
5	9	0.00	2.21	-0.49	0.54	-0.49	-0.54	1.41
5	10	0.00	-0.04	-0.12	-0.1	-0.12	0.1	0.13
5	11	0.00	-0.13	0.25	-0.14	0.25	0.14	0.25
5	12	0.00	0.24	0.13	0.02	0.13	-0.02	0.18
5	13	0.00	2.08	0.02	0.57	0.02	-0.57	1.29
5	14	0.00	-0.72	0.25	-0.14	0.25	0.14	0.48
5	15	0.00	0.32	0.46	-0.28	0.46	0.28	0.48
5	16	0.00	1.55	-0.21	-1.42	-0.21	1.42	1.47
5	17	0.00	-0.22	-0.14	0.1	-0.14	-0.1	0.19
5	18	0.00	-0.69	-0.35	-0.13	-0.35	0.13	0.50
5	19	0.00	-2.86	-1.07	-0.01	-1.07	0.01	1.87
5	20	0.00	0.51	-0.04	0.18	-0.04	-0.18	0.33

5	21	0.00	-0.72	-0.16	0.78	-0.16	-0.78	0.77
5	22	0.00	-0.79	0.82	-1.54	0.82	1.54	1.50
5	23	0.00	-11.51	-2.27	-11.88	-2.27	11.88	11.90
5	24	0.00	0.95	-0.83	0.91	-0.83	-0.91	1.15
5	25	0.00	-0.57	-0.32	0.54	-0.32	-0.54	0.61
5	26	0.00	0.48	0.22	-0.22	0.22	0.22	0.38
5	27	0.00	-117.28	5.09	51.41	5.09	-51.41	79.78
5	28	0.00	3.56	0.36	0.56	0.36	-0.56	2.13
5	29	0.00	-28.75	-8.9	-2.68	-8.9	2.68	18.25
5	30	0.00	23.62	-3.25	-12.64	-3.25	12.64	17.31
6	0	0.00	-4.79	-2.62	3.83	-2.62	-3.83	4.69
6	1	0.00	3.01	0.56	-0.13	0.56	0.13	1.80
6	2	0.00	1.43	0.04	0.44	0.04	-0.44	0.90
6	3	0.00	-2.92	-0.19	0.24	-0.19	-0.24	1.70
6	4	0.00	0.43	-0.69	0.53	-0.69	-0.53	0.75
6	5	0.00	1.97	0.3	-0.64	0.3	0.64	1.28
6	6	0.00	5.19	0.81	-1.23	0.81	1.23	3.23
6	7	0.00	-2.44	-0.48	0.29	-0.48	-0.29	1.48
6	8	0.00	3.7	1.38	-1.33	1.38	1.33	2.65
6	9	0.00	-1.65	-0.94	0.9	-0.94	-0.9	1.43
6	10	0.00	0.16	-0.27	-0.34	-0.27	0.34	0.37
6	11	0.00	0.09	0.17	-0.24	0.17	0.24	0.25
6	12	0.00	-0.26	0.45	-0.16	0.45	0.16	0.42
6	13	0.00	-0.87	0.34	0.09	0.34	-0.09	0.58
6	14	0.00	0.8	0.62	-0.5	0.62	0.5	0.80
6	15	0.00	1.05	0.51	-0.08	0.51	0.08	0.74
6	16	0.00	-0.37	0.14	0.3	0.14	-0.3	0.34
6	17	0.00	0.16	0.11	-0.03	0.11	0.03	0.13
6	18	0.00	0.84	0.29	-0.05	0.29	0.05	0.54
6	19	0.00	2.05	1.01	-0.11	1.01	0.11	1.45
6	20	0.00	-0.04	0.18	-0.05	0.18	0.05	0.15
6	21	0.00	0.74	-0.3	-0.39	-0.3	0.39	0.59
6	22	0.00	-2.49	2.76	-2.4	2.76	2.4	3.31
6	23	0.00	3.51	0.64	3.14	0.64	-3.14	3.31
6	24	0.00	0.25	-0.99	-1.25	-0.99	1.25	1.31
6	25	0.00	0.99	0.63	0.37	0.63	-0.37	0.83
6	26	0.00	-0.13	0.07	0.13	0.07	-0.13	0.14
6	27	0.00	-17.11	5.99	8.72	5.99	-8.72	13.12
6	28	0.00	-0.06	0	-0.71	0	0.71	0.58
6	29	0.00	9.25	1.25	2.74	1.25	-2.74	5.88
6	30	0.00	59.46	-5.53	-28.29	-5.53	28.29	41.62
7	0	0.00	1.77	-0.45	3.76	-0.45	-3.76	3.26
7	1	0.00	1.18	-0.36	0.31	-0.36	-0.31	0.78

7	2	0.00	-3.12	-0.55	0.39	-0.55	-0.39	1.88
7	3	0.00	2.11	-0.89	1.1	-0.89	-1.1	1.68
7	4	0.00	-0.29	-0.33	-0.05	-0.33	0.05	0.32
7	5	0.00	-1.16	0.58	-0.49	0.58	0.49	0.91
7	6	0.00	-8.52	-1.03	0.74	-1.03	-0.74	5.03
7	7	0.00	0.85	0.36	-0.12	0.36	0.12	0.58
7	8	0.00	-3.26	-0.17	-0.09	-0.17	0.09	1.89
7	9	0.00	-0.41	0.73	-0.38	0.73	0.38	0.71
7	10	0.00	-0.91	0.35	-0.24	0.35	0.24	0.63
7	11	0.00	1.92	0.17	0.27	0.17	-0.27	1.14
7	12	0.00	-0.67	0.32	0.12	0.32	-0.12	0.48
7	13	0.00	-0.04	0.06	-0.16	0.06	0.16	0.14
7	14	0.00	-1.27	0.2	0.14	0.2	-0.14	0.76
7	15	0.00	0.91	0.49	0.41	0.49	-0.41	0.74
7	16	0.00	-0.7	0.63	0.14	0.63	-0.14	0.66
7	17	0.00	-0.48	-0.02	0.59	-0.02	-0.59	0.56
7	18	0.00	0.62	-0.07	-0.04	-0.07	0.04	0.36
7	19	0.00	0.15	0.09	0.09	0.09	-0.09	0.14
7	20	0.00	-0.17	-1.11	0.2	-1.11	-0.2	0.93
7	21	0.00	-1.77	1.53	0.23	1.53	-0.23	1.62
7	22	0.00	0.49	-0.7	0.15	-0.7	-0.15	0.65
7	23	0.00	-0.26	-0.07	0.1	-0.07	-0.1	0.18
7	24	0.00	7.34	3.95	5.46	3.95	-5.46	6.95
7	25	0.00	-9.11	-17.18	-14.02	-17.18	14.02	18.85
7	26	0.00	-0.21	0.44	0.34	0.44	-0.34	0.47
7	27	0.00	-6.18	0.4	-0.45	0.4	0.45	3.60
7	28	0.00	3.69	-1.23	1.02	-1.23	-1.02	2.50
7	29	0.00	-52.18	16.5	-14.18	16.5	14.18	34.97
7	30	0.00	-4.52	2.79	-0.6	2.79	0.6	3.50
8	0	0.00	-1.89	-1.12	6.66	-1.12	-6.66	5.62
8	1	0.00	0.37	-0.05	-0.07	-0.05	0.07	0.22
8	2	0.00	-1.35	0.52	0.23	0.52	-0.23	0.91
8	3	0.00	3.9	0.69	-1.31	0.69	1.31	2.56
8	4	0.00	0.07	-0.1	0.3	-0.1	-0.3	0.26
8	5	0.00	4.26	0.52	-1.14	0.52	1.14	2.66
8	6	0.00	2.59	0.56	-1.15	0.56	1.15	1.82
8	7	0.00	0.71	-0.04	-0.04	-0.04	0.04	0.41
8	8	0.00	-3.53	0.18	-0.06	0.18	0.06	2.04
8	9	0.00	-7.34	-0.09	0.26	-0.09	-0.26	4.24
8	10	0.00	-0.14	0.29	0.06	0.29	-0.06	0.25
8	11	0.00	-0.22	-0.62	0.69	-0.62	-0.69	0.77
8	12	0.00	-1.04	0.19	0.75	0.19	-0.75	0.87
8	13	0.00	-0.23	0.01	0.06	0.01	-0.06	0.14
8	14	0.00	-0.55	0.57	0.28	0.57	-0.28	0.61

8	15	0.00	-0.36	-0.09	0.93	-0.09	-0.93	0.79
8	16	0.00	-0.06	-0.05	0.1	-0.05	-0.1	0.10
8	17	0.00	0.66	0.02	0.02	0.02	-0.02	0.38
8	18	0.00	0.54	-0.33	-0.04	-0.33	0.04	0.41
8	19	0.00	-0.46	0.04	0.48	0.04	-0.48	0.47
8	20	0.00	0.25	0.22	-0.15	0.22	0.15	0.26
8	21	0.00	0.26	-0.24	-0.08	-0.24	0.08	0.26
8	22	0.00	-1.39	2.57	-0.3	2.57	0.3	2.26
8	23	0.00	1.51	-1.77	5.28	-1.77	-5.28	4.63
8	24	0.00	-1.46	-0.42	-0.94	-0.42	0.94	1.19
8	25	0.00	0.66	1.88	1.12	1.88	-1.12	1.83
8	26	0.00	-3.61	-1.54	0.61	-1.54	-0.61	2.48
8	27	0.00	1.26	-0.03	0.23	-0.03	-0.23	0.75
8	28	0.00	-0.55	0.21	0.92	0.21	-0.92	0.83
8	29	0.00	12.17	-1.94	1.7	-1.94	-1.7	7.34
8	30	0.00	-14.46	-3.04	7.59	-3.04	-7.59	10.69
9	0	0.00	6.38	-4.65	0.21	-4.65	-0.21	5.29
9	1	0.00	0.39	-0.09	0.1	-0.09	-0.1	0.25
9	2	0.00	-1.46	-0.36	0.43	-0.36	-0.43	0.96
9	3	0.00	1.49	1.04	-1.53	1.04	1.53	1.74
9	4	0.00	1.14	-0.55	0	-0.55	0	0.80
9	5	0.00	0.61	0.88	-1.73	0.88	1.73	1.62
9	6	0.00	0.68	-0.27	-0.2	-0.27	0.2	0.48
9	7	0.00	8.73	0.26	-0.61	0.26	0.61	5.07
9	8	0.00	-0.96	0.19	-0.73	0.19	0.73	0.83
9	9	0.00	0	0.08	0.09	0.08	-0.09	0.10
9	10	0.00	0.49	-0.28	-0.07	-0.28	0.07	0.37
9	11	0.00	0.12	-0.28	0.05	-0.28	-0.05	0.24
9	12	0.00	0.93	-0.36	-0.07	-0.36	0.07	0.61
9	13	0.00	0.93	-0.95	0.04	-0.95	-0.04	0.94
9	14	0.00	1.09	-0.67	-0.39	-0.67	0.39	0.89
9	15	0.00	0.68	0.13	0.08	0.13	-0.08	0.41
9	16	0.00	-0.35	0.25	0.04	0.25	-0.04	0.29
9	17	0.00	0.21	0.13	-0.88	0.13	0.88	0.74
9	18	0.00	0.61	0.39	-0.27	0.39	0.27	0.52
9	19	0.00	-0.16	-0.25	0.22	-0.25	-0.22	0.29
9	20	0.00	0.02	-0.04	-0.1	-0.04	0.1	0.09
9	21	0.00	-0.57	0.4	0.15	0.4	-0.15	0.48
9	22	0.00	-2.95	11.54	-4.65	11.54	4.65	10.30
9	23	0.00	0.06	-0.86	0.73	-0.86	-0.73	0.92
9	24	0.00	0.66	-0.32	-0.43	-0.32	0.43	0.58
9	25	0.00	-0.4	1.37	2.73	1.37	-2.73	2.50
9	26	0.00	-1.37	-0.77	-0.63	-0.77	0.63	1.13
9	27	0.00	-0.53	-0.32	-1.64	-0.32	1.64	1.40

9	28	0.00	6.52	-1.75	1.96	-1.75	-1.96	4.33
9	29	0.00	-35	9.21	-10.4	9.21	10.4	23.17
9	30	0.00	-5.76	-0.97	-2.09	-0.97	2.09	3.82
10	0	0.00	2.51	-1.44	1.58	-1.44	-1.58	2.27
10	1	0.00	0.27	-0.42	0.17	-0.42	-0.17	0.40
10	2	0.00	-0.18	-0.2	0.16	-0.2	-0.16	0.23
10	3	0.00	0.25	-0.32	-0.02	-0.32	0.02	0.30
10	4	0.00	0	-0.47	0.26	-0.47	-0.26	0.44
10	5	0.00	0.58	0.79	-0.82	0.79	0.82	0.99
10	6	0.00	0.55	-0.18	-0.06	-0.18	0.06	0.35
10	7	0.00	1.49	0.1	-0.2	0.1	0.2	0.88
10	8	0.00	-0.34	0.06	-0.05	0.06	0.05	0.21
10	9	0.00	-0.49	-0.05	0.27	-0.05	-0.27	0.36
10	10	0.00	-0.48	0.2	0.04	0.2	-0.04	0.32
10	11	0.00	1.44	0.18	-0.41	0.18	0.41	0.91
10	12	0.00	-1.01	-0.3	0.34	-0.3	-0.34	0.69
10	13	0.00	0.55	0.18	-0.44	0.18	0.44	0.50
10	14	0.00	-0.27	-0.57	0.36	-0.57	-0.36	0.57
10	15	0.00	-0.49	-0.18	0.36	-0.18	-0.36	0.43
10	16	0.00	-0.25	0.1	0.03	0.1	-0.03	0.17
10	17	0.00	0.03	0.12	-0.26	0.12	0.26	0.23
10	18	0.00	-4.52	-0.77	1.69	-0.77	-1.69	3.02
10	19	0.00	2.18	0.35	-0.77	0.35	0.77	1.44
10	20	0.00	-1.5	-1.36	1.72	-1.36	-1.72	1.99
10	21	0.00	-0.34	0.65	-0.23	0.65	0.23	0.60
10	22	0.00	5.64	-51	23.91	-51	-23.91	46.11
10	23	0.00	0.2	3.09	-0.17	3.09	0.17	2.53
10	24	0.00	-0.07	0.41	-0.18	0.41	0.18	0.37
10	25	0.00	-0.1	-0.94	-0.24	-0.94	0.24	0.79
10	26	0.00	-0.76	-0.16	0.13	-0.16	-0.13	0.47
10	27	0.00	-3.89	-0.54	2.02	-0.54	-2.02	2.82
10	28	0.00	1.62	-0.65	0.24	-0.65	-0.24	1.09
10	29	0.00	-7.76	2.91	-0.83	2.91	0.83	5.12
10	30	0.00	26.06	-12.78	-8.32	-12.78	8.32	19.53
11	0	0.00	-3.46	-2.57	-0.75	-2.57	0.75	2.96
11	1	0.00	0.2	-0.11	-0.24	-0.11	0.24	0.24
11	2	0.00	0.17	-0.31	0.08	-0.31	-0.08	0.28
11	3	0.00	0.37	-0.21	0.38	-0.21	-0.38	0.41
11	4	0.00	0.11	-0.18	0.12	-0.18	-0.12	0.19
11	5	0.00	-0.29	0.05	-0.06	0.05	0.06	0.18
11	6	0.00	-2.65	-0.31	0.2	-0.31	-0.2	1.56
11	7	0.00	0.09	0.21	0.02	0.21	-0.02	0.18
11	8	0.00	-0.09	-0.14	0.21	-0.14	-0.21	0.21
11	9	0.00	0.61	-0.81	-0.43	-0.81	0.43	0.83

11	10	0.00	2.5	-1.18	1.14	-1.18	-1.14	1.97
11	11	0.00	-6.27	0.15	0.06	0.15	-0.06	3.62
11	12	0.00	3.02	-0.06	0.07	-0.06	-0.07	1.75
11	13	0.00	-1.93	0.3	-0.08	0.3	0.08	1.14
11	14	0.00	0.38	0.35	-0.26	0.35	0.26	0.42
11	15	0.00	1.88	0.07	-0.04	0.07	0.04	1.09
11	16	0.00	-0.05	0.04	0.06	0.04	-0.06	0.07
11	17	0.00	0.24	-0.3	-0.04	-0.3	0.04	0.28
11	18	0.00	-0.92	-0.12	-0.04	-0.12	0.04	0.54
11	19	0.00	1.08	0.04	0.17	0.04	-0.17	0.64
11	20	0.00	-0.08	0.74	0.58	0.74	-0.58	0.77
11	21	0.00	-0.44	0.39	0.05	0.39	-0.05	0.41
11	22	0.00	0.36	-1.62	0.68	-1.62	-0.68	1.45
11	23	0.00	0.07	0.08	0.61	0.08	-0.61	0.50
11	24	0.00	2.86	-13.03	-6.51	-13.03	6.51	12.01
11	25	0.00	-0.33	46.09	26.93	46.09	-26.93	43.59
11	26	0.00	-0.02	-0.31	-0.25	-0.31	0.25	0.33
11	27	0.00	-3.07	-0.09	-0.51	-0.09	0.51	1.82
11	28	0.00	4.27	0.51	2.23	0.51	-2.23	3.09
11	29	0.00	-48.22	2.12	-20.32	2.12	20.32	32.45
11	30	0.00	-4.84	0.58	-1.91	0.58	1.91	3.23
12	0	0.00	-2.26	1.12	-1.68	1.12	1.68	2.10
12	1	0.00	-0.15	-0.15	0.35	-0.15	-0.35	0.32
12	2	0.00	-0.2	0.15	-0.6	0.15	0.6	0.52
12	3	0.00	-0.47	-0.19	0.38	-0.19	-0.38	0.44
12	4	0.00	-0.19	0.12	-0.04	0.12	0.04	0.15
12	5	0.00	-0.35	-0.06	0.35	-0.06	-0.35	0.35
12	6	0.00	0.41	0.2	-0.41	0.2	0.41	0.44
12	7	0.00	-0.38	0.29	-1.28	0.29	1.28	1.09
12	8	0.00	-0.32	-0.1	-0.01	-0.1	0.01	0.20
12	9	0.00	1	0.09	-0.2	0.09	0.2	0.60
12	10	0.00	1.48	0.34	-0.63	0.34	0.63	1.04
12	11	0.00	-0.78	-0.23	0.62	-0.23	-0.62	0.70
12	12	0.00	-4.61	-1.28	1.28	-1.28	-1.28	3.04
12	13	0.00	-0.41	0.22	-0.27	0.22	0.27	0.37
12	14	0.00	1.52	0.3	-0.4	0.3	0.4	0.97
12	15	0.00	2.96	0.72	-1.21	0.72	1.21	2.06
12	16	0.00	0.25	-0.12	-0.04	-0.12	0.04	0.18
12	17	0.00	7.62	0.62	-0.13	0.62	0.13	4.43
12	18	0.00	-0.88	-0.13	-0.23	-0.13	0.23	0.55
12	19	0.00	-0.39	-0.11	-0.05	-0.11	0.05	0.25
12	20	0.00	0.54	0.04	-0.05	0.04	0.05	0.32
12	21	0.00	-0.23	-0.21	0.05	-0.21	-0.05	0.22
12	22	0.00	0.72	-0.21	3.16	-0.21	-3.16	2.62

12	23	0.00	3.86	-8.63	58.26	-8.63	-58.26	48.14
12	24	0.00	-0.56	0.42	-2.53	0.42	2.53	2.12
12	25	0.00	-0.2	-0.49	-1.11	-0.49	1.11	1.00
12	26	0.00	0.54	0.17	0.55	0.17	-0.55	0.56
12	27	0.00	-2.52	-0.61	-0.37	-0.61	0.37	1.57
12	28	0.00	0.35	0.17	-0.24	0.17	0.24	0.31
12	29	0.00	-4.07	-1.47	-0.74	-1.47	0.74	2.71
12	30	0.00	0.36	0.61	-0.09	0.61	0.09	0.54
13	0	0.00	0.48	-0.49	0.59	-0.49	-0.59	0.68
13	1	0.00	-0.14	-0.1	-0.02	-0.1	0.02	0.12
13	2	0.00	0.02	-0.01	-0.03	-0.01	0.03	0.03
13	3	0.00	0.4	0.15	-0.37	0.15	0.37	0.40
13	4	0.00	0.04	-0.14	0.02	-0.14	-0.02	0.12
13	5	0.00	0.54	-0.12	-0.34	-0.12	0.34	0.43
13	6	0.00	-1.08	0.48	0.47	0.48	-0.47	0.83
13	7	0.00	-2.13	0.43	1.21	0.43	-1.21	1.62
13	8	0.00	0.16	-0.8	0.17	-0.8	-0.17	0.67
13	9	0.00	0.18	-1.04	0.28	-1.04	-0.28	0.89
13	10	0.00	-0.06	-0.06	0.01	-0.06	-0.01	0.06
13	11	0.00	0.45	0.07	-0.17	0.07	0.17	0.30
13	12	0.00	-0.18	-0.01	-0.05	-0.01	0.05	0.11
13	13	0.00	0.15	0.02	-0.09	0.02	0.09	0.11
13	14	0.00	-0.11	0.02	0.08	0.02	-0.08	0.09
13	15	0.00	-0.24	-0.04	0.12	-0.04	-0.12	0.17
13	16	0.00	1.36	-0.65	-0.01	-0.65	0.01	0.95
13	17	0.00	0.01	0.04	-0.04	0.04	0.04	0.05
13	18	0.00	-0.19	-0.02	0.15	-0.02	-0.15	0.17
13	19	0.00	0.65	0.03	-0.14	0.03	0.14	0.39
13	20	0.00	-0.18	-0.13	0.17	-0.13	-0.17	0.20
13	21	0.00	0.17	-0.2	0.52	-0.2	-0.52	0.47
13	22	0.00	-0.49	1.26	-0.34	1.26	0.34	1.10
13	23	0.00	0.12	-0.01	0.05	-0.01	-0.05	0.08
13	24	0.00	1.33	-0.22	0.16	-0.22	-0.16	0.80
13	25	0.00	0.04	-0.04	0.2	-0.04	-0.2	0.17
13	26	0.00	4.48	-0.83	-1.95	-0.83	1.95	3.11
13	27	0.00	-67.73	15.44	27.41	15.44	-27.41	46.79
13	28	0.00	-1.12	0.93	2	0.93	-2	1.91
13	29	0.00	22.18	-7.3	-35.07	-7.3	35.07	31.93
13	30	0.00	-488.93	113.01	201.11	113.01	-201.11	339.36
14	0	0.00	0.45	1.35	1.16	1.35	-1.16	1.48
14	1	0.00	-0.87	1.24	1.26	1.24	-1.26	1.53
14	2	0.00	-0.45	-0.06	-0.11	-0.06	0.11	0.28
14	3	0.00	-0.05	-0.27	-0.34	-0.27	0.34	0.36

14	4	0.00	0.75	-0.25	0.14	-0.25	-0.14	0.49
14	5	0.00	0.18	0.38	0.31	0.38	-0.31	0.41
14	6	0.00	-0.38	-0.01	0.13	-0.01	-0.13	0.24
14	7	0.00	0.03	0.09	0.07	0.09	-0.07	0.09
14	8	0.00	0.44	-0.16	0.03	-0.16	-0.03	0.29
14	9	0.00	-0.02	-0.1	0	-0.1	0	0.08
14	10	0.00	0.51	-0.15	0	-0.15	0	0.32
14	11	0.00	-0.37	0.07	0.1	0.07	-0.1	0.24
14	12	0.00	0.4	0.2	0.08	0.2	-0.08	0.29
14	13	0.00	-0.9	0.34	-0.08	0.34	0.08	0.59
14	14	0.00	-0.11	0	0.08	0	-0.08	0.09
14	15	0.00	0.87	0.17	0.22	0.17	-0.22	0.55
14	16	0.00	-0.05	0.09	-0.36	0.09	0.36	0.30
14	17	0.00	-0.74	0.13	-0.26	0.13	0.26	0.49
14	18	0.00	-1.52	0.02	-0.27	0.02	0.27	0.90
14	19	0.00	-2.93	0.05	-0.7	0.05	0.7	1.79
14	20	0.00	-1.32	0.34	-0.29	0.34	0.29	0.84
14	21	0.00	-0.48	-0.08	0.07	-0.08	-0.07	0.29
14	22	0.00	-0.43	0.02	-0.09	0.02	0.09	0.26
14	23	0.00	-0.63	0.12	-0.33	0.12	0.33	0.46
14	24	0.00	-13.5	1.66	-4.54	1.66	4.54	8.74
14	25	0.00	-2.32	0.7	-0.64	0.7	0.64	1.55
14	26	0.00	1.67	-0.14	0.26	-0.14	-0.26	0.99
14	27	0.00	32.33	-6.18	0.16	-6.18	-0.16	19.34
14	28	0.00	-42.2	6.45	-15.64	6.45	15.64	28.01
14	29	0.00	482.04	-73.07	173.22	-73.07	-173.22	317.83
14	30	0.00	17.21	0.47	33.25	0.47	-33.25	28.91
15	0	0.00	1.86	0.86	6.08	0.86	-6.08	5.13
15	1	0.00	1.65	0.83	0.02	0.83	-0.02	1.17
15	2	0.00	0.54	0.31	-0.18	0.31	0.18	0.43
15	3	0.00	1.48	0.57	0.13	0.57	-0.13	0.98
15	4	0.00	1.14	0.32	-0.42	0.32	0.42	0.79
15	5	0.00	-1.56	-0.63	0.02	-0.63	-0.02	1.04
15	6	0.00	0.57	0.14	-0.28	0.14	0.28	0.42
15	7	0.00	-0.03	-0.02	0.16	-0.02	-0.16	0.13
15	8	0.00	-0.48	0.06	0.39	0.06	-0.39	0.42
15	9	0.00	0.46	-0.04	-0.23	-0.04	0.23	0.33
15	10	0.00	0.16	0.01	-0.1	0.01	0.1	0.12
15	11	0.00	-0.25	-0.04	0.17	-0.04	-0.17	0.20
15	12	0.00	-0.78	-0.27	0.36	-0.27	-0.36	0.58
15	13	0.00	0.47	0.11	0.15	0.11	-0.15	0.31
15	14	0.00	0.28	0.11	-0.25	0.11	0.25	0.28
15	15	0.00	-0.4	-0.26	0.28	-0.26	-0.28	0.39
15	16	0.00	1.12	0.46	-0.11	0.46	0.11	0.75

15	17	0.00	1.19	0.1	0.04	0.1	-0.04	0.69
15	18	0.00	1.4	0.44	0.04	0.44	-0.04	0.89
15	19	0.00	3	0.73	0.35	0.73	-0.35	1.85
15	20	0.00	0.19	0.05	0.06	0.05	-0.06	0.13
15	21	0.00	1.75	0.8	0.17	0.8	-0.17	1.21
15	22	0.00	-0.01	-0.12	-0.05	-0.12	0.05	0.11
15	23	0.00	-1.23	-0.88	0.51	-0.88	-0.51	1.09
15	24	0.00	1.91	0.58	0.09	0.58	-0.09	1.20
15	25	0.00	0.78	0.24	0.12	0.24	-0.12	0.50
15	26	0.00	-1.82	-1.33	0.57	-1.33	-0.57	1.58
15	27	0.00	27.67	5.77	0.77	5.77	-0.77	16.67
15	28	0.00	-6.87	-0.8	-1.79	-0.8	1.79	4.28
15	29	0.00	78.85	8.03	19.46	8.03	-19.46	48.66
15	30	0.00	-0.22	-1.38	1.83	-1.38	-1.83	1.88
16	0	0.00	-4.1	3.11	-1.55	3.11	1.55	3.70
16	1	0.00	-0.28	0.18	-0.08	0.18	0.08	0.23
16	2	0.00	-0.17	0.09	0.08	0.09	-0.08	0.14
16	3	0.00	0.65	-0.32	0.2	-0.32	-0.2	0.49
16	4	0.00	-0.14	0.26	-0.04	0.26	0.04	0.23
16	5	0.00	0.4	-0.94	0.05	-0.94	-0.05	0.80
16	6	0.00	0.07	-0.06	0	-0.06	0	0.06
16	7	0.00	-0.21	-0.01	0.14	-0.01	-0.14	0.17
16	8	0.00	0.06	0.01	-0.08	0.01	0.08	0.07
16	9	0.00	-0.08	0.01	-0.01	0.01	0.01	0.05
16	10	0.00	0.27	-0.14	0.1	-0.14	-0.1	0.21
16	11	0.00	5.65	0.78	-1.69	0.78	1.69	3.60
16	12	0.00	-1.78	-0.41	0.16	-0.41	-0.16	1.09
16	13	0.00	-1.35	1.3	-1.43	1.3	1.43	1.76
16	14	0.00	-0.77	-0.96	0.87	-0.96	-0.87	1.15
16	15	0.00	-0.95	-0.24	0.36	-0.24	-0.36	0.65
16	16	0.00	0.1	-0.11	0.08	-0.11	-0.08	0.13
16	17	0.00	-0.65	-0.3	0.13	-0.3	-0.13	0.46
16	18	0.00	1.65	0.23	-0.6	0.23	0.6	1.09
16	19	0.00	-0.62	-0.01	0.2	-0.01	-0.2	0.39
16	20	0.00	0.54	0.14	-0.45	0.14	0.45	0.50
16	21	0.00	0.09	-0.05	-0.05	-0.05	0.05	0.08
16	22	0.00	3.01	5.07	-2.99	5.07	2.99	5.11
16	23	0.00	2.7	1.27	0.02	1.27	-0.02	1.87
16	24	0.00	0.77	-0.68	0.35	-0.68	-0.35	0.77
16	25	0.00	-0.67	-0.73	-0.88	-0.73	0.88	1.01
16	26	0.00	-0.36	0.06	0.09	0.06	-0.09	0.23
16	27	0.00	1	-0.32	-0.55	-0.32	0.55	0.78
16	28	0.00	0.25	-0.58	-0.21	-0.58	0.21	0.52
16	29	0.00	0.34	-0.12	2.3	-0.12	-2.3	1.89

16	30	0.00	21.2	-3.86	-9.02	-3.86	9.02	14.63
17	0	0.00	2.99	-2.09	-3.73	-2.09	3.73	3.89
17	1	0.00	-0.09	0.09	-0.32	0.09	0.32	0.28
17	2	0.00	0.18	-0.06	0.23	-0.06	-0.23	0.22
17	3	0.00	0.11	0.15	-0.34	0.15	0.34	0.31
17	4	0.00	-0.34	-0.03	-0.06	-0.03	0.06	0.20
17	5	0.00	-0.16	0.15	-0.31	0.15	0.31	0.30
17	6	0.00	-0.53	0.04	0.15	0.04	-0.15	0.33
17	7	0.00	-0.51	0.65	-0.09	0.65	0.09	0.61
17	8	0.00	-0.14	-0.07	0.06	-0.07	-0.06	0.11
17	9	0.00	-0.1	0.18	0	0.18	0	0.16
17	10	0.00	5.42	1.4	-1.81	1.4	1.81	3.64
17	11	0.00	0.92	-0.06	-0.14	-0.06	0.14	0.55
17	12	0.00	-1.26	0.12	-0.14	0.12	0.14	0.74
17	13	0.00	-6.67	0.09	0.28	0.09	-0.28	3.86
17	14	0.00	0.92	-0.03	0.15	-0.03	-0.15	0.55
17	15	0.00	-1.92	-0.48	0.19	-0.48	-0.19	1.19
17	16	0.00	0.5	-0.02	-0.02	-0.02	0.02	0.29
17	17	0.00	-0.53	0.67	-0.55	0.67	0.55	0.77
17	18	0.00	-0.54	-0.52	0.19	-0.52	-0.19	0.55
17	19	0.00	-0.57	0.05	0.05	0.05	-0.05	0.33
17	20	0.00	1.11	0.02	-0.05	0.02	0.05	0.64
17	21	0.00	0.33	-0.19	-0.07	-0.19	0.07	0.25
17	22	0.00	-2.97	1.22	0.65	1.22	-0.65	2.05
17	23	0.00	5.33	2.47	-0.66	2.47	0.66	3.72
17	24	0.00	2.56	-0.08	0.09	-0.08	-0.09	1.48
17	25	0.00	-0.08	0.01	-0.41	0.01	0.41	0.34
17	26	0.00	0.08	0.03	-0.04	0.03	0.04	0.06
17	27	0.00	3.28	-0.68	-1.28	-0.68	1.28	2.23
17	28	0.00	1.97	-0.04	0.07	-0.04	-0.07	1.14
17	29	0.00	-7.03	1.64	-1.94	1.64	1.94	4.56
17	30	0.00	1.16	-0.59	-0.92	-0.59	0.92	1.12
18	0	0.00	-0.67	2.93	1.39	2.93	-1.39	2.68
18	1	0.00	-0.28	0.32	-0.52	0.32	0.52	0.52
18	2	0.00	-0.35	0.17	-0.18	0.17	0.18	0.29
18	3	0.00	0.65	0.05	-0.7	0.05	0.7	0.68
18	4	0.00	0.3	0.13	0.05	0.13	-0.05	0.21
18	5	0.00	-0.27	-0.19	-0.63	-0.19	0.63	0.56
18	6	0.00	0.23	0.03	-0.07	0.03	0.07	0.15
18	7	0.00	0.26	-0.21	-0.42	-0.21	0.42	0.41
18	8	0.00	0	0.01	-0.01	0.01	0.01	0.01
18	9	0.00	0.03	0.01	-0.08	0.01	0.08	0.07
18	10	0.00	-2.07	-0.53	0.86	-0.53	-0.86	1.45
18	11	0.00	-1.48	-0.26	0.46	-0.26	-0.46	0.96

18	12	0.00	-1.77	-0.62	0.71	-0.62	-0.71	1.28
18	13	0.00	3.03	0.11	-0.41	0.11	0.41	1.78
18	14	0.00	1.46	0.27	-0.64	0.27	0.64	1.02
18	15	0.00	-3.55	-0.79	1.21	-0.79	-1.21	2.36
18	16	0.00	-0.2	0	0.02	0	-0.02	0.12
18	17	0.00	1.34	1.48	-1.27	1.48	1.27	1.77
18	18	0.00	-0.19	0.01	0.1	0.01	-0.1	0.14
18	19	0.00	-1.74	-0.44	0.57	-0.44	-0.57	1.16
18	20	0.00	-0.33	0.16	-0.19	0.16	0.19	0.28
18	21	0.00	0.01	-0.02	-0.02	-0.02	0.02	0.02
18	22	0.00	-6.85	6.8	-0.84	6.8	0.84	6.85
18	23	0.00	-5.1	-2.1	-3.88	-2.1	3.88	4.65
18	24	0.00	-0.5	-0.07	0.27	-0.07	-0.27	0.37
18	25	0.00	0.35	-0.29	0.19	-0.29	-0.19	0.35
18	26	0.00	0.28	0.06	-0.21	0.06	0.21	0.24
18	27	0.00	2.91	-0.64	-1	-0.64	1	1.94
18	28	0.00	-0.62	-0.14	-0.03	-0.14	0.03	0.38
18	29	0.00	1.74	-0.05	1.15	-0.05	-1.15	1.38
18	30	0.00	8.06	-1.71	-3.27	-1.71	3.27	5.54
19	0	0.00	-17.96	10.96	5.69	10.96	-5.69	14.46
19	1	0.00	-0.93	-0.02	0.94	-0.02	-0.94	0.94
19	2	0.00	2.2	-0.31	-1.63	-0.31	1.63	1.86
19	3	0.00	-0.1	0.13	-0.04	0.13	0.04	0.13
19	4	0.00	1.8	-1.48	-0.14	-1.48	0.14	1.60
19	5	0.00	0.92	-0.88	-0.04	-0.88	0.04	0.89
19	6	0.00	0.51	-0.41	-0.19	-0.41	0.19	0.47
19	7	0.00	0.28	0.14	-0.09	0.14	0.09	0.21
19	8	0.00	0.17	-0.08	-0.08	-0.08	0.08	0.13
19	9	0.00	0.08	0.09	-0.01	0.09	0.01	0.09
19	10	0.00	0.46	-0.52	0.05	-0.52	-0.05	0.50
19	11	0.00	0.23	-0.62	0.17	-0.62	-0.17	0.54
19	12	0.00	0.12	-0.41	0.17	-0.41	-0.17	0.37
19	13	0.00	-0.02	0.06	0.02	0.06	-0.02	0.05
19	14	0.00	1.59	-1.34	0.21	-1.34	-0.21	1.44
19	15	0.00	-0.89	-0.17	0.16	-0.17	-0.16	0.55
19	16	0.00	0.16	-0.18	-0.01	-0.18	0.01	0.17
19	17	0.00	0.04	0.08	-0.05	0.08	0.05	0.08
19	18	0.00	1.11	0.13	-0.34	0.13	0.34	0.71
19	19	0.00	1.87	0.22	-0.42	0.22	0.42	1.15
19	20	0.00	-0.18	0.2	-0.12	0.2	0.12	0.22
19	21	0.00	2.37	0.25	0.29	0.25	-0.29	1.40
19	22	0.00	-2.86	1.88	0.36	1.88	-0.36	2.27
19	23	0.00	-1.3	0.22	0.3	0.22	-0.3	0.81
19	24	0.00	-3.59	0.94	0.77	0.94	-0.77	2.30

19	25	0.00	-3.04	0.64	0.75	0.64	-0.75	1.93
19	26	0.00	1.5	-0.34	-0.47	-0.34	0.47	0.99
19	27	0.00	-	147.78	263.16	147.78	-263.16	439.66
			630.65					
19	28	0.00	-2.13	-0.12	-1.03	-0.12	1.03	1.49
19	29	0.00	65.69	-7.35	-5.33	-7.35	5.33	38.64
19	30	0.00	76.11	-15.99	-29.88	-15.99	29.88	51.93
20	0	0.00	-	361.09	-9.54	361.09	9.54	362.63
			365.44					
20	1	0.00	1.52	1.24	0.37	1.24	-0.37	1.37
20	2	0.00	-0.49	3.09	-0.34	3.09	0.34	2.55
20	3	0.00	8.46	-18.93	4.28	-18.93	-4.28	16.58
20	4	0.00	-0.59	0.35	-1.04	0.35	1.04	0.96
20	5	0.00	7.23	-13.75	5.06	-13.75	-5.06	12.67
20	6	0.00	1.45	-3.4	1.44	-3.4	-1.44	3.13
20	7	0.00	0.8	-2.53	0.85	-2.53	-0.85	2.23
20	8	0.00	0.9	-1.26	0.27	-1.26	-0.27	1.17
20	9	0.00	0.29	-0.34	0.03	-0.34	-0.03	0.33
20	10	0.00	3.86	-10.43	4.24	-10.43	-4.24	9.46
20	11	0.00	2.71	-11.18	4.02	-11.18	-4.02	9.83
20	12	0.00	1.28	-9.65	3.57	-9.65	-3.57	8.43
20	13	0.00	1.71	-6.39	2.48	-6.39	-2.48	5.68
20	14	0.00	7.8	-27.67	10.6	-27.67	-10.6	24.61
20	15	0.00	1.6	-3.03	0.28	-3.03	-0.28	2.65
20	16	0.00	0.72	-1.63	0.69	-1.63	-0.69	1.50
20	17	0.00	-0.12	-0.07	0.06	-0.07	-0.06	0.10
20	18	0.00	-0.12	-0.01	-0.01	-0.01	0.01	0.07
20	19	0.00	0.03	-0.11	-0.3	-0.11	0.3	0.26
20	20	0.00	0.39	0.95	-0.63	0.95	0.63	0.96
20	21	0.00	0.02	2.42	-1.28	2.42	1.28	2.24
20	22	0.00	4.12	-3.06	-1.24	-3.06	1.24	3.60
20	23	0.00	-0.57	0.1	-0.16	0.1	0.16	0.36
20	24	0.00	0.15	0.98	-0.53	0.98	0.53	0.91
20	25	0.00	0.02	0.26	-0.26	0.26	0.26	0.30
20	26	0.00	0.05	-0.11	0.28	-0.11	-0.28	0.25
20	27	0.00	20.98	-4.83	-9.13	-4.83	9.13	14.76
20	28	0.00	-0.06	-0.37	0.37	-0.37	-0.37	0.43
20	29	0.00	-1.65	-0.43	0.42	-0.43	-0.42	1.07
20	30	0.00	-9.92	0.32	1.75	0.32	-1.75	5.91
21	0	0.00	-	-	-	-113.07	336.13	356.47
			360.12	113.07	336.13			
21	1	0.00	-2.9	-0.91	-5.22	-0.91	5.22	4.64
21	2	0.00	3.78	1.42	9.06	1.42	-9.06	7.80
21	3	0.00	-4.21	-0.47	-6.7	-0.47	6.7	6.00

21	4	0.00	-3.18	-0.41	-6.21	-0.41	6.21	5.40
21	5	0.00	2.38	0.69	3.82	0.69	-3.82	3.45
21	6	0.00	10.92	2.27	20.83	2.27	-20.83	18.23
21	7	0.00	-4.44	0.19	-8.82	0.19	8.82	7.65
21	8	0.00	2.17	0.42	4.56	0.42	-4.56	3.94
21	9	0.00	-0.86	-0.08	-1.48	-0.08	1.48	1.31
21	10	0.00	1.72	0.38	4.3	0.38	-4.3	3.66
21	11	0.00	-5.48	0.72	-15.61	0.72	15.61	13.15
21	12	0.00	-2.65	1.61	-13.29	1.61	13.29	11.04
21	13	0.00	0.35	-0.17	2.04	-0.17	-2.04	1.68
21	14	0.00	3.49	-0.15	12.22	-0.15	-12.22	10.18
21	15	0.00	-6.34	2.33	-26.39	2.33	26.39	21.94
21	16	0.00	0.28	-0.12	-0.39	-0.12	0.39	0.37
21	17	0.00	0.46	0.17	-0.6	0.17	0.6	0.57
21	18	0.00	1.4	0.55	-2.29	0.55	2.29	2.09
21	19	0.00	-2.02	1.56	-10.85	1.56	10.85	9.03
21	20	0.00	0.49	-0.05	0.24	-0.05	-0.24	0.35
21	21	0.00	0.34	-0.24	-0.04	-0.24	0.04	0.28
21	22	0.00	1.87	-0.45	0.28	-0.45	-0.28	1.16
21	23	0.00	11.05	3.2	6.21	3.2	-6.21	8.56
21	24	0.00	-1.38	-0.51	0.56	-0.51	-0.56	1.01
21	25	0.00	-0.32	-0.14	0.28	-0.14	-0.28	0.32
21	26	0.00	-0.18	-0.41	2.52	-0.41	-2.52	2.09
21	27	0.00	-1.67	0.32	0.76	0.32	-0.76	1.18
21	28	0.00	-0.35	-0.19	0.78	-0.19	-0.78	0.69
21	29	0.00	-0.2	-0.15	-0.22	-0.15	0.22	0.25
21	30	0.00	-1.1	0.22	0.6	0.22	-0.6	0.82
22	0	0.00	346.2	211.8	298.93	211.8	-298.93	359.76
22	1	0.00	-0.73	-0.87	-0.27	-0.87	0.27	0.85
22	2	0.00	-1.37	-1.51	-1.65	-1.51	1.65	1.99
22	3	0.00	3.12	4.8	4.5	4.8	-4.5	5.67
22	4	0.00	-8.3	-15.12	-14.16	-15.12	14.16	17.58
22	5	0.00	-3.25	-5.81	-5.21	-5.81	5.21	6.64
22	6	0.00	1.19	1.58	1	1.58	-1	1.67
22	7	0.00	-0.34	-1.05	-0.36	-1.05	0.36	0.93
22	8	0.00	-6.01	-8.18	-8.06	-8.18	8.06	10.00
22	9	0.00	1.7	4.8	1.59	4.8	-1.59	4.24
22	10	0.00	-0.81	-0.97	-0.87	-0.97	0.87	1.16
22	11	0.00	-0.62	-5.56	-3.65	-5.56	3.65	5.44
22	12	0.00	1.38	5.18	4	5.18	-4	5.40
22	13	0.00	7.1	27.63	19.35	27.63	-19.35	27.85
22	14	0.00	-1.82	-5.35	-3.81	-5.35	3.81	5.46
22	15	0.00	0.98	0.43	0.11	0.43	-0.11	0.67
22	16	0.00	-0.12	-1.76	-1.16	-1.76	1.16	1.72

22	17	0.00	-0.35	2.11	0.3	2.11	-0.3	1.75
22	18	0.00	0.12	-0.23	-0.09	-0.23	0.09	0.21
22	19	0.00	-0.39	0.57	0.16	0.57	-0.16	0.53
22	20	0.00	-2.41	0.83	-0.28	0.83	0.28	1.56
22	21	0.00	-0.09	-0.12	-0.03	-0.12	0.03	0.11
22	22	0.00	-0.73	0.44	0.1	0.44	-0.1	0.56
22	23	0.00	0.24	-0.55	-0.22	-0.55	0.22	0.50
22	24	0.00	5.7	-8.66	-2.16	-8.66	2.16	8.00
22	25	0.00	-15.41	-6.06	-10.66	-6.06	10.66	13.39
22	26	0.00	0.15	0.65	0.46	0.65	-0.46	0.66
22	27	0.00	3.84	-0.98	-2	-0.98	2	2.87
22	28	0.00	-0.19	-5.53	-3.34	-5.53	3.34	5.28
22	29	0.00	-4.02	2.56	-3.3	2.56	3.3	4.13
22	30	0.00	-1.22	0.41	0.05	0.41	-0.05	0.78
23	0	0.00	73.55	41.61	57.13	41.61	-57.13	71.65
23	1	0.00	0.38	0.18	-0.48	0.18	0.48	0.47
23	2	0.00	-0.67	-0.27	-0.46	-0.27	0.46	0.58
23	3	0.00	0.14	0.88	1.19	0.88	-1.19	1.21
23	4	0.00	-2.4	-2.9	-3.31	-2.9	3.31	3.85
23	5	0.00	-0.09	-1.09	-1.49	-1.09	1.49	1.51
23	6	0.00	-0.41	0.29	0.84	0.29	-0.84	0.76
23	7	0.00	0.11	-0.1	-0.38	-0.1	0.38	0.33
23	8	0.00	-2.09	-2.06	-1.16	-2.06	1.16	2.28
23	9	0.00	0.84	0.84	1.06	0.84	-1.06	1.21
23	10	0.00	0.32	-0.54	0.02	-0.54	-0.02	0.48
23	11	0.00	-2.94	-1.14	-1.21	-1.14	1.21	2.17
23	12	0.00	-1.21	2.17	-0.4	2.17	0.4	1.93
23	13	0.00	2.12	5.49	4.31	5.49	-4.31	5.83
23	14	0.00	1.83	-1.33	-0.17	-1.33	0.17	1.52
23	15	0.00	-6.36	-1.26	0.27	-1.26	-0.27	3.82
23	16	0.00	0.06	-0.55	-0.3	-0.55	0.3	0.51
23	17	0.00	-0.24	0.44	0.12	0.44	-0.12	0.40
23	18	0.00	0.22	-0.02	0.16	-0.02	-0.16	0.18
23	19	0.00	-1.59	0.4	0.29	0.4	-0.29	1.00
23	20	0.00	0.18	0.54	0.26	0.54	-0.26	0.50
23	21	0.00	1.2	-0.64	-0.43	-0.64	0.43	0.94
23	22	0.00	0.62	-0.74	-0.3	-0.74	0.3	0.74
23	23	0.00	-3.77	-1.43	-1.99	-1.43	1.99	2.96
23	24	0.00	-9.21	-3.63	-6.72	-3.63	6.72	8.20
23	25	0.00	30.99	5.04	19.33	5.04	-19.33	24.21
23	26	0.00	0.39	0.07	0.13	0.07	-0.13	0.26
23	27	0.00	-6.77	1.07	2.95	1.07	-2.95	4.67
23	28	0.00	-0.38	-1.15	-0.94	-1.15	0.94	1.23
23	29	0.00	10.08	-0.29	5.18	-0.29	-5.18	7.20

23	30	0.00	2.98	-0.06	-0.15	-0.06	0.15	1.73
24	0	0.00	20.53	29.13	26.82	29.13	-26.82	34.43
24	1	0.00	0.98	0.46	-0.7	0.46	0.7	0.89
24	2	0.00	0.99	0.59	-0.83	0.59	0.83	1.01
24	3	0.00	0.6	-0.25	0.96	-0.25	-0.96	0.88
24	4	0.00	-0.55	-1.27	-0.49	-1.27	0.49	1.16
24	5	0.00	-0.41	-0.89	-0.55	-0.89	0.55	0.89
24	6	0.00	0.63	-0.04	0.34	-0.04	-0.34	0.46
24	7	0.00	1.05	0.21	-0.3	0.21	0.3	0.68
24	8	0.00	-1.22	-0.74	-1.05	-0.74	1.05	1.26
24	9	0.00	1.24	0.58	-0.16	0.58	0.16	0.87
24	10	0.00	-0.11	-1.22	-0.43	-1.22	0.43	1.06
24	11	0.00	0.1	-1.01	0.32	-1.01	-0.32	0.87
24	12	0.00	1.21	-0.33	1.34	-0.33	-1.34	1.33
24	13	0.00	0.63	2.11	1.81	2.11	-1.81	2.30
24	14	0.00	-1.02	-1.22	0.43	-1.22	-0.43	1.21
24	15	0.00	2.54	0.42	-0.62	0.42	0.62	1.59
24	16	0.00	-1.39	0.15	0.51	0.15	-0.51	0.91
24	17	0.00	0.27	0.07	-0.04	0.07	0.04	0.17
24	18	0.00	4.31	0.01	-0.22	0.01	0.22	2.49
24	19	0.00	-0.37	0.51	0.66	0.51	-0.66	0.71
24	20	0.00	0.62	0.95	0.12	0.95	-0.12	0.86
24	21	0.00	-0.11	-0.19	0.18	-0.19	-0.18	0.22
24	22	0.00	-38.09	24.81	7.55	24.81	-7.55	30.53
24	23	0.00	6.54	-0.05	2.02	-0.05	-2.02	4.12
24	24	0.00	-14.6	-4.27	-9.9	-4.27	9.9	12.19
24	25	0.00	50.27	11.31	31.12	11.31	-31.12	39.66
24	26	0.00	0.31	0.55	-0.01	0.55	0.01	0.48
24	27	0.00	32.42	-6.18	-11.11	-6.18	11.11	21.40
24	28	0.00	-1.81	-0.22	-0.96	-0.22	0.96	1.32
24	29	0.00	30.04	0.18	17.2	0.18	-17.2	22.32
24	30	0.00	55.82	-12.25	-19.82	-12.25	19.82	37.42
25	0	0.00	-64.85	-7.51	-43.89	-7.51	43.89	52.19
25	1	0.00	-0.98	-0.22	-0.11	-0.22	0.11	0.60
25	2	0.00	0.03	-0.17	1.27	-0.17	-1.27	1.05
25	3	0.00	-0.08	-0.83	-0.39	-0.83	0.39	0.75
25	4	0.00	0.22	1.09	0.1	1.09	-0.1	0.90
25	5	0.00	-0.06	-0.23	0.56	-0.23	-0.56	0.50
25	6	0.00	2.09	0.11	1.75	0.11	-1.75	1.87
25	7	0.00	-0.13	0.63	-0.91	0.63	0.91	0.91
25	8	0.00	0.82	0.61	0.99	0.61	-0.99	1.06
25	9	0.00	-1.31	0.2	-0.37	0.2	0.37	0.83
25	10	0.00	0.18	-0.67	0.3	-0.67	-0.3	0.61
25	11	0.00	-1.17	0.05	-0.76	0.05	0.76	0.92

25	12	0.00	-1.01	-0.31	-0.51	-0.31	0.51	0.76
25	13	0.00	-1.74	-1.74	-0.76	-1.74	0.76	1.85
25	14	0.00	-2.42	-1.24	2.35	-1.24	-2.35	2.58
25	15	0.00	-1.12	0.1	-2.01	0.1	2.01	1.77
25	16	0.00	-1.44	0.47	0.44	0.47	-0.44	0.98
25	17	0.00	0.1	-0.22	0.09	-0.22	-0.09	0.20
25	18	0.00	0.38	-0.23	-0.47	-0.23	0.47	0.48
25	19	0.00	-1.49	-0.1	-1.14	-0.1	1.14	1.27
25	20	0.00	-5.52	-0.13	-0.22	-0.13	0.22	3.19
25	21	0.00	0.05	0.12	0.07	0.12	-0.07	0.12
25	22	0.00	-45.07	27.74	7.63	27.74	-7.63	35.06
25	23	0.00	-23.02	-9.63	-15.44	-9.63	15.44	19.93
25	24	0.00	10.28	2.42	5.78	2.42	-5.78	7.84
25	25	0.00	-23.12	-5.74	-15.1	-5.74	15.1	18.77
25	26	0.00	-0.11	0.12	0.16	0.12	-0.16	0.18
25	27	0.00	15.14	-5.53	-8.36	-5.53	8.36	11.97
25	28	0.00	1.91	0.35	0.75	0.35	-0.75	1.29
25	29	0.00	-32.17	2.74	-7.62	2.74	7.62	19.72
25	30	0.00	34.29	-9.81	-15.88	-9.81	15.88	24.98
26	0	0.00	1.16	-9.37	-8.84	-9.37	8.84	10.54
26	1	0.00	2.38	-0.08	-1.55	-0.08	1.55	1.87
26	2	0.00	2.36	0.04	-0.32	0.04	0.32	1.39
26	3	0.00	-0.4	0.38	-1.2	0.38	1.2	1.05
26	4	0.00	-0.6	-1.29	-1.24	-1.29	1.24	1.50
26	5	0.00	0.17	0.61	0.4	0.61	-0.4	0.60
26	6	0.00	1.71	0.43	1.68	0.43	-1.68	1.73
26	7	0.00	-0.78	0.67	-0.49	0.67	0.49	0.81
26	8	0.00	0.8	-0.79	-0.15	-0.79	0.15	0.80
26	9	0.00	1.36	-0.01	0.25	-0.01	-0.25	0.81
26	10	0.00	-0.09	0.77	0.6	0.77	-0.6	0.80
26	11	0.00	-0.66	0.3	-1.28	0.3	1.28	1.14
26	12	0.00	-0.41	0.35	-0.89	0.35	0.89	0.82
26	13	0.00	-0.42	1.63	1.46	1.63	-1.46	1.80
26	14	0.00	-2.72	-0.32	1.2	-0.32	-1.2	1.87
26	15	0.00	1.48	0.62	-1.43	0.62	1.43	1.53
26	16	0.00	-2.62	1.26	0.68	1.26	-0.68	1.91
26	17	0.00	0.16	0.15	-0.16	0.15	0.16	0.20
26	18	0.00	1.19	-0.4	0.14	-0.4	-0.14	0.77
26	19	0.00	-0.16	0.43	-0.56	0.43	0.56	0.58
26	20	0.00	-3.96	0.24	0.53	0.24	-0.53	2.34
26	21	0.00	-2.71	1.89	0.5	1.89	-0.5	2.24
26	22	0.00	49.08	-33.81	-11.23	-33.81	11.23	40.61
26	23	0.00	-36.73	-8.79	-18.9	-8.79	18.9	27.19
26	24	0.00	-5.75	-1.85	-4.36	-1.85	4.36	5.10

26	25	0.00	29.09	7.32	18.47	7.32	-18.47	23.35
26	26	0.00	0.23	-0.09	0.48	-0.09	-0.48	0.42
26	27	0.00	-11.81	3.92	4.95	3.92	-4.95	8.55
26	28	0.00	0.79	-0.25	0.43	-0.25	-0.43	0.61
26	29	0.00	25.19	-1.23	5.94	-1.23	-5.94	15.36
26	30	0.00	-26.12	8.24	12.22	8.24	-12.22	19.29
27	0	0.00	-10.53	-0.98	-9.54	-0.98	9.54	9.91
27	1	0.00	3.04	0.39	-1.33	0.39	1.33	2.09
27	2	0.00	4.94	1.53	-0.48	1.53	0.48	3.14
27	3	0.00	0.44	-0.38	-0.65	-0.38	0.65	0.67
27	4	0.00	-0.39	-1.45	-0.77	-1.45	0.77	1.36
27	5	0.00	0.25	0.48	0.39	0.48	-0.39	0.53
27	6	0.00	1.99	0.18	0.61	0.18	-0.61	1.26
27	7	0.00	-1.5	-0.3	-0.19	-0.3	0.19	0.91
27	8	0.00	-0.64	0.22	-0.27	0.22	0.27	0.47
27	9	0.00	-0.44	-0.04	0.14	-0.04	-0.14	0.28
27	10	0.00	-0.12	-0.12	0.06	-0.12	-0.06	0.13
27	11	0.00	0.63	0.28	-0.86	0.28	0.86	0.82
27	12	0.00	0.71	0.43	-0.55	0.43	0.55	0.70
27	13	0.00	1.68	0.13	0.72	0.13	-0.72	1.14
27	14	0.00	-1.04	-0.3	0.21	-0.3	-0.21	0.67
27	15	0.00	2.61	1.09	-0.88	1.09	0.88	1.89
27	16	0.00	-2.19	2.09	1	2.09	-1	2.28
27	17	0.00	0.04	-0.04	-0.05	-0.04	0.05	0.06
27	18	0.00	-1.66	-0.27	-0.18	-0.27	0.18	0.99
27	19	0.00	-1.02	-0.34	-0.48	-0.34	0.48	0.76
27	20	0.00	1.25	-0.16	0.15	-0.16	-0.15	0.74
27	21	0.00	-4.59	1.68	1.36	1.68	-1.36	3.18
27	22	0.00	-8.95	5.2	1.42	5.2	-1.42	6.79
27	23	0.00	-5.74	-2.64	-3.05	-2.64	3.05	4.67
27	24	0.00	4.13	0.52	1.42	0.52	-1.42	2.69
27	25	0.00	-2.77	-0.61	-2.02	-0.61	2.02	2.35
27	26	0.00	-0.49	-0.8	-1.28	-0.8	1.28	1.26
27	27	0.00	17.47	9.31	4.07	9.31	-4.07	13.06
27	28	0.00	-4.04	-1.25	-1.03	-1.25	1.03	2.68
27	29	0.00	52.73	15.76	7.84	15.76	-7.84	33.67
27	30	0.00	-6.28	1.64	4.91	1.64	-4.91	5.57
28	0	0.00	-44.73	-15.1	-36.68	-15.1	36.68	41.42
28	1	0.00	0.56	-0.74	-0.94	-0.74	0.94	1.03
28	2	0.00	1.97	0.26	0.35	0.26	-0.35	1.19
28	3	0.00	0.18	-0.72	-1.25	-0.72	1.25	1.18
28	4	0.00	0.45	-0.2	-0.64	-0.2	0.64	0.61
28	5	0.00	-0.78	0.29	0.9	0.29	-0.9	0.89
28	6	0.00	4.22	1.68	1.69	1.68	-1.69	3.12

28	7	0.00	-1.98	-0.16	-0.33	-0.16	0.33	1.18
28	8	0.00	0.99	0.2	0.43	0.2	-0.43	0.69
28	9	0.00	-1.06	0.15	-0.32	0.15	0.32	0.68
28	10	0.00	0.58	0.05	0.3	0.05	-0.3	0.42
28	11	0.00	0.93	0.08	-1.8	0.08	1.8	1.57
28	12	0.00	1.42	0.72	-1.15	0.72	1.15	1.38
28	13	0.00	0.04	-0.15	0.12	-0.15	-0.12	0.16
28	14	0.00	1.54	0.12	0.47	0.12	-0.47	0.97
28	15	0.00	1.5	1	-1.91	1	1.91	1.96
28	16	0.00	-4.59	1.87	1.33	1.87	-1.33	3.25
28	17	0.00	-1	-0.1	-0.03	-0.1	0.03	0.58
28	18	0.00	-0.53	-1	-0.39	-1	0.39	0.93
28	19	0.00	-3.09	-0.41	-1.73	-0.41	1.73	2.30
28	20	0.00	4.29	-0.24	0.01	-0.24	-0.01	2.48
28	21	0.00	-4.34	2.62	1.06	2.62	-1.06	3.41
28	22	0.00	-15.46	5.8	0.3	5.8	-0.3	10.11
28	23	0.00	-64.21	-23.16	-35.06	-23.16	35.06	50.51
28	24	0.00	5.3	1.5	3.28	1.5	-3.28	4.25
28	25	0.00	-1.45	-0.63	-1.29	-0.63	1.29	1.44
28	26	0.00	-1.35	-0.47	-0.17	-0.47	0.17	0.88
28	27	0.00	4.48	-4.39	-5.88	-4.39	5.88	6.53
28	28	0.00	-0.69	0.62	-0.16	0.62	0.16	0.66
28	29	0.00	3.18	-6.18	1.34	-6.18	-1.34	5.48
28	30	0.00	-1.78	0.18	2.41	0.18	-2.41	2.22
29	0	0.00	12.69	13.98	15.18	13.98	-15.18	18.37
29	1	0.00	0.01	0.13	-0.31	0.13	0.31	0.27
29	2	0.00	0.24	0.04	-0.47	0.04	0.47	0.41
29	3	0.00	0.69	0.55	0.51	0.55	-0.51	0.73
29	4	0.00	-0.58	-0.49	-0.33	-0.49	0.33	0.59
29	5	0.00	0.46	-0.13	-0.49	-0.13	0.49	0.49
29	6	0.00	-2.58	-0.78	0.69	-0.78	-0.69	1.72
29	7	0.00	-3.65	-1.15	0.19	-1.15	-0.19	2.31
29	8	0.00	-2.91	-0.13	-1.16	-0.13	1.16	1.93
29	9	0.00	-2.91	0.29	-0.68	0.29	0.68	1.79
29	10	0.00	0.09	-0.55	-0.35	-0.55	0.35	0.53
29	11	0.00	0.59	-0.5	-0.17	-0.5	0.17	0.55
29	12	0.00	-0.17	0.03	0.35	0.03	-0.35	0.30
29	13	0.00	-0.45	1.25	0.54	1.25	-0.54	1.14
29	14	0.00	-0.4	-0.29	-0.11	-0.29	0.11	0.34
29	15	0.00	-0.03	-0.03	-0.1	-0.03	0.1	0.09
29	16	0.00	-0.89	0.31	0.28	0.31	-0.28	0.62
29	17	0.00	-0.13	0.15	-0.01	0.15	0.01	0.14
29	18	0.00	-3.02	0.43	0.39	0.43	-0.39	1.81
29	19	0.00	1.66	-0.2	-0.28	-0.2	0.28	1.00

29	20	0.00	-0.92	-0.27	0.35	-0.27	-0.35	0.64
29	21	0.00	1.24	-0.08	-0.58	-0.08	0.58	0.86
29	22	0.00	-23.04	15.15	4.58	15.15	-4.58	18.55
29	23	0.00	5.08	0.52	1.64	0.52	-1.64	3.25
29	24	0.00	-7.33	-2.84	-5.07	-2.84	5.07	6.36
29	25	0.00	24.66	7.59	16.92	7.59	-16.92	20.78
29	26	0.00	-6.3	-2.41	-3.03	-2.41	3.03	4.82
29	27	0.00	-24.21	3.62	8.88	3.62	-8.88	16.02
29	28	0.00	-7.11	-0.44	-3.19	-0.44	3.19	4.87
29	29	0.00	17.73	-5.51	0.5	-5.51	-0.5	11.19
29	30	0.00	-81.42	13.69	36.03	13.69	-36.03	56.57
30	0	0.00	-1.13	-3.88	-1.97	-3.88	1.97	3.61
30	1	0.00	-4.91	-0.66	2.27	-0.66	-2.27	3.43
30	2	0.00	2.97	1.39	0.15	1.39	-0.15	2.06
30	3	0.00	0.87	0.34	-0.64	0.34	0.64	0.78
30	4	0.00	3.64	-0.34	0.45	-0.34	-0.45	2.15
30	5	0.00	-0.16	-0.07	0.85	-0.07	-0.85	0.70
30	6	0.00	-0.07	-0.08	-0.5	-0.08	0.5	0.42
30	7	0.00	0.16	0	0.16	0	-0.16	0.16
30	8	0.00	0.41	-0.01	0.14	-0.01	-0.14	0.26
30	9	0.00	-0.35	-0.04	-0.04	-0.04	0.04	0.21
30	10	0.00	-0.07	-0.64	-0.66	-0.64	0.66	0.75
30	11	0.00	0.23	0.63	0.58	0.63	-0.58	0.71
30	12	0.00	0.17	-0.03	0.35	-0.03	-0.35	0.30
30	13	0.00	2.44	-0.49	0.85	-0.49	-0.85	1.62
30	14	0.00	-2.12	0.27	-0.03	0.27	0.03	1.24
30	15	0.00	2.01	0.74	1.06	0.74	-1.06	1.57
30	16	0.00	4.39	-2.29	-1.05	-2.29	1.05	3.26
30	17	0.00	0.05	-0.12	-0.12	-0.12	0.12	0.14
30	18	0.00	-2.65	-0.73	-0.92	-0.73	0.92	1.81
30	19	0.00	-6.02	-1.72	-1.6	-1.72	1.6	3.97
30	20	0.00	-0.05	-0.19	0.27	-0.19	-0.27	0.27
30	21	0.00	-2.35	1.44	0.66	1.44	-0.66	1.87
30	22	0.00	0.82	0.01	0.23	0.01	-0.23	0.51
30	23	0.00	9.02	3.1	4.27	3.1	-4.27	6.76
30	24	0.00	4.42	1.08	2.34	1.08	-2.34	3.31
30	25	0.00	-10.88	-3.51	-7.74	-3.51	7.74	9.36
30	26	0.00	0.6	0.27	0.09	0.27	-0.09	0.42
30	27	0.00	60.07	-12.29	-20.37	-12.29	20.37	39.75
30	28	0.00	-7.7	1.34	-2.59	1.34	2.59	5.04
30	29	0.00	105.09	-21.78	35.04	-21.78	-35.04	69.40
30	30	0.00	-0.93	0.05	8.97	0.05	-8.97	7.34

Table S10. The coordinate of Conformer 1 of I-Alq_3 in S_0 state calculated at the level of B3LYP/def2-SVP.

	Coordinates /Angstrom		
Elements	**X**	**Y**	**Z**
O	0.786114	-0.520289	1.430052
Al	-3.738151	0.541549	0.195959
C	-2.644534	-1.787933	1.148994
N	-5.526014	-0.176161	0.943652
N	-2.203910	1.530709	-0.722160
N	-3.529488	-1.210697	-0.947886
O	-3.806181	2.059659	1.266968
O	-4.873217	1.189158	-1.173412
C	-2.161675	-2.774375	2.012079
C	-3.053953	-2.211272	-0.163892
C	-6.547800	0.188722	0.125506
C	-5.771532	-0.862485	2.048136
C	-2.220681	2.821181	-0.282245
C	-1.403563	1.188372	-1.720826
C	-3.929677	-1.472418	-2.182511
C	-3.108236	3.072486	0.823209
C	-6.148943	0.945720	-1.032942
C	-2.116018	-4.124655	1.595074
H	-1.838207	-2.491206	3.015687
C	-2.996221	-3.566949	-0.587010
C	-7.905638	-0.147159	0.391901
C	-7.085862	-1.241167	2.400760
H	-4.907989	-1.113426	2.667452
C	-1.418089	3.841394	-0.860127
C	-0.586742	2.138068	-2.368776
H	-1.400596	0.141561	-2.029572
C	-3.881784	-2.783196	-2.707569
H	-4.310300	-0.624276	-2.755933
C	-3.137705	4.372128	1.333796
C	-7.162098	1.340822	-1.910310
C	-2.519564	-4.536275	0.334970
H	-1.741062	-4.869506	2.301701
C	-3.432181	-3.822093	-1.913783
C	-8.896892	0.278006	-0.530711
C	-8.141312	-0.889412	1.579508
H	-7.250970	-1.807513	3.319139
C	-0.596529	3.452257	-1.948381
C	-1.484430	5.148325	-0.306619
H	0.056560	1.815475	-3.183903
H	-4.215578	-2.961042	-3.731332

C	-2.328805	5.383996	0.766471
H	-3.799304	4.589463	2.174648
C	-8.509575	1.002981	-1.647292
H	-6.894008	1.919442	-2.796476
H	-2.475697	-5.587629	0.042547
H	-3.405334	-4.844862	-2.300129
H	-9.945918	0.033890	-0.350726
H	-9.164946	-1.175511	1.837453
H	0.042909	4.191709	-2.434978
H	-0.876013	5.946883	-0.736360
H	-2.381090	6.390226	1.192261
H	-9.273822	1.332438	-2.357034
Ir	2.721013	-0.232223	0.024685
C	3.031138	1.588548	-0.812040
C	4.436239	-1.044716	-0.675882
C	2.271796	2.649455	-0.236154
C	3.925005	1.928971	-1.844328
C	1.568571	-1.007032	-1.436783
N	1.122704	0.923364	0.942254
N	2.162522	-2.127308	0.910946
N	4.120474	0.364163	1.588394
C	4.613021	-1.808045	-1.847216
C	5.599084	-0.795629	0.112725
C	2.428952	3.977681	-0.670753
C	1.289930	2.267067	0.785685
C	4.065439	3.247550	-2.284989
H	4.524413	1.142599	-2.309049
C	0.956261	-2.262340	-1.139745
C	1.344878	-0.486536	-2.726817
C	0.187997	0.452772	1.779639
C	1.338640	-2.881045	0.133405
C	2.602111	-2.594420	2.087767
C	5.405736	-0.008274	1.334301
C	3.826325	1.081158	2.682666
C	5.866635	-2.290404	-2.225813
H	3.749162	-2.021015	-2.479551
C	6.861421	-1.283656	-0.276658
C	3.322146	4.280392	-1.695855
H	1.835150	4.777506	-0.221400
C	0.551642	3.157044	1.580395
H	4.767191	3.477389	-3.092608
C	0.086645	-2.885712	-2.053671
C	0.499836	-1.118745	-3.639758
H	1.852212	0.436640	-3.012432

C	-0.599681	1.287544	2.566258
H	0.075058	-0.632115	1.814974
C	0.966213	-4.166713	0.560314
C	2.252458	-3.850871	2.570648
H	3.264826	-1.930849	2.647624
C	6.425394	0.368181	2.228439
C	4.790723	1.477539	3.602706
H	2.776151	1.344268	2.818420
C	7.000377	-2.028679	-1.442693
H	5.965954	-2.877756	-3.143872
H	7.745364	-1.082497	0.333556
H	3.438651	5.311994	-2.037586
C	-0.387472	2.665835	2.483222
H	0.704693	4.229908	1.478560
C	-0.159878	-2.309410	-3.296608
H	-0.395652	-3.829881	-1.795286
H	0.344324	-0.679685	-4.630308
H	-1.378891	0.859316	3.194179
C	1.421075	-4.652696	1.780205
H	0.318534	-4.775108	-0.067273
H	2.635428	-4.193962	3.533147
C	6.120060	1.111836	3.362288
H	7.455616	0.077843	2.024451
H	4.503532	2.061467	4.478575
H	7.981626	-2.404908	-1.742035
H	-0.974182	3.355704	3.091352
H	-0.839539	-2.792936	-4.001925
H	1.132295	-5.652175	2.115054
H	6.912009	1.406920	4.055196

Table S11. The coordinate of Conformer 2 of I-Alq_3 in S_0 state calculated at the level of B3LYP/def2-SVP.

	Coordinates /Angstrom		
Elements	**X**	**Y**	**Z**
O	2.484813	-0.689939	-1.182882
Al	3.637718	0.605678	-0.431210
C	3.054082	-1.617871	-1.909112
N	2.138342	1.748631	0.369363
N	3.785929	-0.627888	1.257148
N	5.070454	-0.526352	-1.375837
O	4.949000	1.570249	0.524748
O	3.589914	1.861948	-1.800563

C	2.400621	-2.663092	-2.565870
C	4.487312	-1.562524	-2.032588
C	2.065823	2.903669	-0.354729
C	1.397310	1.610668	1.458867
C	4.708675	-0.123004	2.119653
C	3.190678	-1.779090	1.526204
C	6.382196	-0.362907	-1.418425
C	5.315209	1.108051	1.688628
C	2.884544	2.930951	-1.538925
C	3.140690	-3.613134	-3.309001
H	1.315403	-2.742994	-2.493259
C	5.230641	-2.516838	-2.780980
C	1.235472	3.995003	0.017841
C	0.546489	2.643524	1.907158
H	1.466424	0.665141	2.000713
C	5.064298	-0.767155	3.338533
C	3.500990	-2.509354	2.695486
H	2.451286	-2.124035	0.801382
C	7.207527	-1.257831	-2.136152
H	6.780049	0.496495	-0.873572
C	6.255606	1.686370	2.546370
C	2.846033	4.092257	-2.314605
C	4.520691	-3.563599	-3.427677
H	2.593154	-4.417953	-3.808056
C	6.638023	-2.324295	-2.807850
C	1.226131	5.151839	-0.806670
C	0.466625	3.823694	1.197400
H	-0.047707	2.483893	2.803099
C	4.420134	-2.006637	3.595904
C	6.027673	-0.143375	4.172431
H	3.005246	-3.463913	2.877826
H	8.286694	-1.095053	-2.150186
C	6.591406	1.057430	3.766603
H	6.727269	2.625858	2.251793
C	2.024444	5.179633	-1.938523
H	3.460948	4.139792	-3.215583
H	5.065843	-4.310599	-4.008394
H	7.263929	-3.025916	-3.366535
H	0.596990	6.001937	-0.534626
H	-0.200957	4.623255	1.527441
H	4.662899	-2.558549	4.508312
H	6.315159	-0.613547	5.115128
H	7.332985	1.538912	4.410392
H	2.021963	6.072343	-2.570704

Ir	-2.605275	-0.282604	0.110825
C	-4.194862	-1.224769	0.941584
C	-1.465713	-0.512426	1.756645
C	-5.318385	-1.402761	0.080060
C	-4.320062	-1.714439	2.257442
C	-3.239220	1.595814	0.536380
N	-3.982999	-0.319769	-1.580776
N	-1.192964	0.900854	-1.042319
N	-1.631269	-2.170892	-0.328646
C	-1.458538	0.291158	2.915132
C	-0.657406	-1.688602	1.790886
C	-6.492640	-2.034305	0.534395
C	-5.184802	-0.890318	-1.286919
C	-5.486645	-2.338513	2.700938
H	-3.487110	-1.596692	2.952441
C	-2.593139	2.633076	-0.198866
C	-4.224220	1.987438	1.462223
C	-3.753907	0.182680	-2.803449
C	-1.556283	2.208666	-1.147021
C	-0.225748	0.402698	-1.825569
C	-0.735645	-2.563671	0.619056
C	-1.808416	-2.901816	-1.437816
C	-0.675462	-0.022322	4.025978
H	-2.092118	1.179552	2.941226
C	0.122689	-2.005121	2.918420
C	-6.581892	-2.502640	1.840680
H	-7.347066	-2.162499	-0.134676
C	-6.183279	-0.952615	-2.277063
H	-5.547055	-2.702530	3.731205
C	-2.921077	3.985400	0.005107
C	-4.544762	3.332367	1.664155
H	-4.745991	1.220405	2.039423
C	-4.700916	0.145579	-3.820906
H	-2.772151	0.629577	-2.965796
C	-0.972139	3.015872	-2.135820
C	0.402521	1.158226	-2.809069
H	0.061332	-0.630972	-1.645333
C	0.016557	-3.735912	0.419931
C	-1.094892	-4.069567	-1.688197
H	-2.552306	-2.524376	-2.143049
C	0.131891	-1.170565	4.031056
H	-0.694817	0.628910	4.905385
H	0.710558	-2.923688	2.939748
H	-7.494859	-2.991163	2.189731

C	-5.943496	-0.436001	-3.544635
H	-7.146266	-1.405505	-2.043332
C	-3.892553	4.339474	0.938470
H	-2.401537	4.767361	-0.555104
H	-5.312200	3.602518	2.395978
H	-4.467628	0.566788	-4.800042
C	-0.001522	2.485099	-2.981006
H	-1.284480	4.053669	-2.240760
H	1.206193	0.717884	-3.398261
C	-0.159852	-4.489474	-0.734683
H	0.737115	-4.051103	1.174216
H	-1.269755	-4.632774	-2.606265
H	0.743054	-1.418948	4.901717
H	-6.719149	-0.483360	-4.313090
H	-4.141831	5.390894	1.102137
H	0.457069	3.109967	-3.748369
H	0.430201	-5.394724	-0.895032

Table S12. The coordinate of Conformer 3 of I-Alq_3 in S_0 state calculated at the level of B3LYP/def2-SVP.

	Coordinates /Angstrom		
Elements	**X**	**Y**	**Z**
O	4.496861	0.655067	1.531017
Al	3.421309	0.159198	0.062848
C	5.791531	0.646913	1.376140
N	3.354663	-1.776609	0.719178
N	3.459763	2.093702	-0.661952
N	5.341963	-0.177858	-0.783759
O	1.862934	0.708963	0.881405
O	2.712494	-0.610239	-1.514025
C	6.733709	1.042814	2.330942
C	6.299538	0.184654	0.109725
C	2.984984	-2.598272	-0.296847
C	3.677383	-2.277827	1.899997
C	2.508305	2.794326	0.015959
C	4.267882	2.723760	-1.501655
C	5.693472	-0.619815	-1.982805
C	1.659918	2.001104	0.869670
C	2.632691	-1.917004	-1.516762
C	8.116073	0.978893	2.043220
H	6.377243	1.402044	3.298509
C	7.695227	0.119156	-0.177829

C	2.972430	-4.015907	-0.176754
C	3.661760	-3.672871	2.130223
H	3.957675	-1.556152	2.670832
C	2.356015	4.208148	-0.110759
C	4.179779	4.117243	-1.713979
H	5.016487	2.119707	-2.019792
C	7.051277	-0.728096	-2.362734
H	4.880678	-0.887779	-2.661354
C	0.684746	2.681678	1.601405
C	2.268716	-2.715654	-2.603925
C	8.609920	0.530764	0.825814
H	8.821310	1.297828	2.816474
C	8.041832	-0.360359	-1.469641
C	2.613009	-4.783098	-1.317339
C	3.324517	-4.532736	1.099891
H	3.926129	-4.054193	3.118307
C	3.237775	4.852878	-1.016101
C	1.343854	4.848277	0.649343
H	4.865074	4.596085	-2.416293
H	7.299642	-1.099315	-3.359148
C	0.543867	4.081240	1.484135
H	0.023128	2.107261	2.246319
C	2.272091	-4.125913	-2.489504
H	1.989086	-2.233179	-3.542979
H	9.683857	0.491526	0.630103
H	9.097252	-0.434872	-1.748137
H	2.601018	-5.873663	-1.255717
H	3.323404	-5.615250	1.258431
H	3.163049	5.935454	-1.156265
H	1.206836	5.929055	0.566718
H	-0.245900	4.567073	2.062910
H	1.986083	-4.715949	-3.365052
Ir	-2.791993	-0.126070	0.113371
C	-1.514348	-0.637098	1.597899
C	-3.253184	1.735245	0.782139
C	-0.766467	-1.833431	1.379926
C	-1.297169	0.033028	2.818593
C	-4.411681	-1.039458	0.924945
N	-2.045217	-2.026441	-0.625924
N	-4.268066	0.158352	-1.476315
N	-1.285251	1.066673	-0.906856
C	-4.198795	2.094092	1.764091
C	-2.549524	2.799720	0.141103
C	0.195962	-2.270564	2.310277

C	-1.088343	-2.588819	0.165490
C	-0.349999	-0.411031	3.742305
H	-1.885339	0.926827	3.041108
C	-5.594387	-1.026192	0.123057
C	-4.504196	-1.672729	2.182759
C	-2.441567	-2.637917	-1.751593
C	-5.494459	-0.358476	-1.180571
C	-4.063688	0.796164	-2.638757
C	-1.509546	2.408801	-0.820832
C	-0.279909	0.595230	-1.658113
C	-4.442365	3.429345	2.094790
H	-4.753142	1.305107	2.278506
C	-2.805379	4.144188	0.473648
C	0.415537	-1.558047	3.484109
H	0.780266	-3.174018	2.121156
C	-0.517963	-3.819196	-0.209132
H	-0.197579	0.144694	4.672975
C	-6.790565	-1.617488	0.578908
C	-5.692217	-2.254871	2.627543
H	-3.623022	-1.702022	2.827646
C	-1.909570	-3.852174	-2.174341
H	-3.218472	-2.125026	-2.323724
C	-6.544774	-0.223146	-2.110403
C	-5.061953	0.959108	-3.594387
H	-3.056955	1.188275	-2.799090
C	-0.745828	3.291878	-1.603729
C	0.532670	1.423520	-2.426599
H	-0.118152	-0.483352	-1.630268
C	-3.749210	4.463207	1.447014
H	-5.181706	3.671226	2.865126
H	-2.250699	4.949165	-0.015278
H	1.169944	-1.895042	4.200063
C	-0.925198	-4.450175	-1.378415
H	0.249016	-4.271996	0.416284
C	-6.844791	-2.230565	1.826539
H	-7.690937	-1.598792	-0.041099
H	-5.725475	-2.734435	3.611190
H	-2.262586	-4.314136	-3.098175
C	-6.330583	0.435178	-3.316294
H	-7.528120	-0.632032	-1.878092
H	-4.848446	1.486950	-4.525684
C	0.274270	2.797421	-2.411283
H	-0.936561	4.363068	-1.553807
H	1.364257	0.988081	-2.979165

H	-3.940836	5.507899	1.706367
H	-0.471339	-5.399584	-1.670749
H	-7.774789	-2.686076	2.176855
H	-7.146779	0.542975	-4.035718
H	0.888158	3.484022	-2.999925

Table S13. The coordinate of Conformer 4 of I-Alq_3 in S_0 state calculated at the level of B3LYP/def2-SVP.

	Coordinates /Angstrom		
Elements	**X**	**Y**	**Z**
O	2.572197	-0.507336	-1.327459
Al	3.987729	0.474470	-0.524138
C	2.922712	-1.366165	-2.251667
N	2.626023	1.584518	0.514386
N	4.072224	-1.003995	0.964432
N	5.125552	-0.675954	-1.780416
O	5.491999	1.091758	0.421183
O	3.999661	1.929127	-1.680602
C	2.058237	-2.177448	-2.989119
C	4.330241	-1.487464	-2.526530
C	2.493577	2.792427	-0.102044
C	1.874567	1.299268	1.567436
C	5.100549	-0.744286	1.814240
C	3.314373	-2.073635	1.150414
C	6.437193	-0.686812	-1.951341
C	5.857574	0.434217	1.487535
C	3.288935	2.957255	-1.292377
C	2.570739	-3.069770	-3.960127
H	0.984744	-2.109912	-2.804546
C	4.844932	-2.381927	-3.505560
C	1.593946	3.793961	0.357435
C	0.935847	2.216275	2.081133
H	1.999202	0.314855	2.022114
C	5.412228	-1.571003	2.931222
C	3.552890	-2.963468	2.222354
H	2.498275	-2.222031	0.442002
C	7.043686	-1.539143	-2.901321
H	7.012173	-0.001257	-1.324167
C	6.920975	0.759937	2.333490
C	3.201870	4.185916	-1.949855
C	3.925436	-3.186775	-4.229347
H	1.863231	-3.687395	-4.520856

C	6.256346	-2.378243	-3.668658
C	1.534638	5.021984	-0.352104
C	0.798075	3.452967	1.481640
H	0.323363	1.929168	2.932822
C	4.587685	-2.713848	3.105013
C	6.502630	-1.199175	3.758984
H	2.915170	-3.839870	2.341550
H	8.128647	-1.521994	-3.018742
C	7.222901	-0.055131	3.447996
H	7.511399	1.652136	2.116409
C	2.337812	5.196121	-1.467494
H	3.801031	4.343217	-2.848770
H	4.292722	-3.881278	-4.987646
H	6.711745	-3.042650	-4.408459
H	0.853984	5.806441	-0.015568
H	0.064102	4.169607	1.859649
H	4.781542	-3.392434	3.940435
H	6.761490	-1.812794	4.624233
H	8.062741	0.232105	4.086986
H	2.293281	6.144032	-2.011704
Ir	-2.723595	-0.065250	0.234414
C	-4.194861	-1.298235	0.883467
C	-1.956758	0.208082	2.077500
C	-5.016564	-1.860329	-0.138738
C	-4.487486	-1.669404	2.210933
C	-3.847998	1.618845	0.236267
N	-3.642872	-0.630988	-1.660903
N	-1.388171	1.309146	-0.771800
N	-1.343420	-1.732127	0.345436
C	-2.291665	1.215551	3.007171
C	-1.023598	-0.782840	2.510128
C	-6.069326	-2.741783	0.175511
C	-4.710848	-1.464604	-1.517271
C	-5.532353	-2.542942	2.515320
H	-3.886669	-1.258976	3.024637
C	-3.270887	2.735949	-0.435638
C	-5.112321	1.806564	0.825461
C	-3.280077	-0.197988	-2.877313
C	-1.960787	2.510518	-1.060244
C	-0.207231	0.970935	-1.311292
C	-0.732177	-1.856329	1.555548
C	-1.142930	-2.644207	-0.614745
C	-1.737866	1.244239	4.287123
H	-3.012605	1.982999	2.719584

C	-0.449598	-0.734456	3.795480
C	-6.330555	-3.085309	1.497684
H	-6.692551	-3.165250	-0.615984
C	-5.428115	-1.874180	-2.657078
H	-5.731028	-2.806412	3.558734
C	-3.937960	3.973344	-0.492447
C	-5.770350	3.036924	0.765243
H	-5.584232	0.971138	1.347412
C	-3.948295	-0.572667	-4.037986
H	-2.421549	0.474713	-2.913396
C	-1.318324	3.389279	-1.948582
C	0.460886	1.789088	-2.216357
H	0.224865	0.016541	-1.009859
C	0.081982	-2.974977	1.806262
C	-0.324327	-3.754442	-0.435632
H	-1.671833	-2.469838	-1.554575
C	-0.803346	0.274283	4.686670
H	-2.027605	2.035224	4.985507
H	0.273387	-1.492234	4.108562
H	-7.148432	-3.769090	1.737510
C	-5.047766	-1.430195	-3.917899
H	-6.286516	-2.535779	-2.544450
C	-5.184340	4.128454	0.108527
H	-3.477956	4.826493	-0.998086
H	-6.750987	3.150755	1.237395
H	-3.616342	-0.194586	-5.006188
C	-0.114576	3.021619	-2.541109
H	-1.779975	4.347354	-2.187433
H	1.412565	1.460440	-2.630857
C	0.286580	-3.924944	0.811397
H	0.546730	-3.091256	2.784407
H	-0.182263	-4.469229	-1.247163
H	-0.361544	0.306576	5.685331
H	-5.606462	-1.745331	-4.802739
H	-5.697950	5.092295	0.068951
H	0.385625	3.696378	-3.237737
H	0.918818	-4.796057	1.001536

Table S14. The coordinate of Conformer 5 of I-Alq_3 in S_0 state calculated at the level of B3LYP/def2-SVP.

	Coordinates /Angstrom		
Elements	**X**	**Y**	**Z**

O	4.934325	-0.156830	-1.535325
Al	4.556745	-0.074906	0.306089
C	5.631787	0.819007	-2.051834
N	2.804635	0.918587	0.001167
N	6.262336	-1.114938	0.827175
N	5.639617	1.706086	0.127308
O	3.774142	-1.771238	0.355866
O	4.226652	0.362890	2.109678
C	6.017864	0.937890	-3.389607
C	6.034635	1.875827	-1.161265
C	2.318309	1.368569	1.189892
C	2.118557	1.125424	-1.114595
C	5.944657	-2.432546	0.954136
C	7.504502	-0.714020	1.043949
C	5.940882	2.616837	1.040647
C	4.565990	-2.755777	0.689977
C	3.124554	1.038357	2.334390
C	6.764469	2.058184	-3.821204
H	5.729985	0.153234	-4.091846
C	6.783773	3.006282	-1.597471
C	1.095858	2.082653	1.297149
C	0.889932	1.817130	-1.104465
H	2.550703	0.720692	-2.032437
C	6.900386	-3.422557	1.324451
C	8.524233	-1.619699	1.408986
H	7.709139	0.352729	0.931050
C	6.676796	3.775687	0.705883
H	5.593862	2.415603	2.056548
C	4.190025	-4.094566	0.818496
C	2.662424	1.464631	3.581208
C	7.149442	3.080332	-2.966191
H	7.046358	2.116113	-4.876377
C	7.095115	3.967162	-0.598800
C	0.666154	2.495001	2.586352
C	0.385005	2.298284	0.089264
H	0.335483	1.945588	-2.033548
C	8.223976	-2.961513	1.549614
C	6.468184	-4.769249	1.439824
H	9.535849	-1.245879	1.576865
H	6.905361	4.506765	1.483512
C	5.139534	-5.073630	1.189075
H	3.151504	-4.370983	0.626063
C	1.447904	2.185074	3.687021
H	3.249969	1.225098	4.470023

H	7.723603	3.935114	-3.329453
H	7.666169	4.858723	-0.873037
H	-0.275724	3.037726	2.687813
H	-0.563828	2.832883	0.109542
H	8.999462	-3.677874	1.834934
H	7.182948	-5.544633	1.723044
H	4.805966	-6.111381	1.278265
H	1.116484	2.498467	4.681313
Ir	-3.393204	-0.176714	-0.265038
C	-5.153095	-0.143337	-1.262393
C	-3.039596	1.795998	-0.482241
C	-5.844823	-1.390379	-1.322508
C	-5.770327	0.956832	-1.891155
C	-2.256565	-0.736510	-1.847019
N	-4.020876	-2.246414	-0.039414
N	-1.489066	-0.553680	0.718859
N	-4.309117	0.603430	1.536894
C	-2.510309	2.454571	-1.611805
C	-3.407234	2.615340	0.626779
C	-7.081571	-1.506676	-1.986200
C	-5.194816	-2.530612	-0.669736
C	-6.994732	0.833943	-2.548829
H	-5.274742	1.929298	-1.869667
C	-0.918509	-1.112759	-1.530520
C	-2.628403	-0.772122	-3.204142
C	-3.330218	-3.216233	0.577918
C	-0.539126	-1.064036	-0.113383
C	-1.247942	-0.449002	2.034375
C	-4.087550	1.933446	1.733282
C	-4.966979	-0.118729	2.454664
C	-2.311558	3.834965	-1.630072
H	-2.250384	1.863450	-2.492131
C	-3.180251	4.005534	0.613370
C	-7.658547	-0.400697	-2.600766
H	-7.601055	-2.467343	-2.023621
C	-5.684422	-3.849843	-0.659409
H	-7.441743	1.709981	-3.028901
C	-0.009125	-1.487535	-2.537243
C	-1.722307	-1.144254	-4.200188
H	-3.647126	-0.493536	-3.483370
C	-3.765913	-4.535905	0.621509
H	-2.393129	-2.911804	1.047911
C	0.687942	-1.496768	0.411832
C	-0.053015	-0.862784	2.611708

H	-2.047135	-0.012526	2.636330
C	-4.530937	2.541961	2.921246
C	-5.432206	0.429405	3.645433
H	-5.115602	-1.173576	2.212219
C	-2.625667	4.617457	-0.507137
H	-1.896920	4.312326	-2.523121
H	-3.453775	4.620715	1.474385
H	-8.617708	-0.494587	-3.115775
C	-4.971915	-4.853637	-0.014179
H	-6.620213	-4.081051	-1.167668
C	-0.406451	-1.500348	-3.871702
H	1.016956	-1.760833	-2.279143
H	-2.042299	-1.156653	-5.246677
H	-3.169725	-5.292206	1.134425
C	0.934076	-1.396377	1.777426
H	1.472101	-1.886804	-0.233812
H	0.109194	-0.739633	3.682746
C	-5.200624	1.790027	3.880452
H	-4.350364	3.604600	3.083116
H	-5.963420	-0.194842	4.365738
H	-2.454818	5.696477	-0.517111
H	-5.349307	-5.879240	-0.010333
H	0.302040	-1.786832	-4.652849
H	1.902163	-1.713670	2.167289
H	-5.545879	2.260673	4.804304

Table S15. The coordinate of Conformer 1 of I-Al(qBr_2)$_3$ in S_0 state calculated at the level of B3LYP/def2-SVP.

	Coordinates /Angstrom		
Elements	**X**	**Y**	**Z**
Al	-3.290452	-0.179567	0.092656
N	-3.904817	-1.787683	1.219778
N	-2.435648	1.379730	-0.915769
C	-4.735812	-1.860229	2.246955
C	-3.235360	-2.900811	0.806461
N	-4.557037	1.119354	1.132138
O	-4.759344	-0.209508	-1.077821
O	-1.961005	0.217177	1.355283
O	-2.319140	-1.486221	-0.826878
C	-2.760396	1.911485	-2.084918
C	-1.366503	1.853416	-0.217027
C	-4.954355	-3.066631	2.942552

H	-5.244562	-0.939542	2.539161
C	-3.377143	-4.159928	1.460476
C	-2.374415	-2.688469	-0.327550
C	-4.351499	1.765138	2.270728
C	-5.713494	1.298756	0.440329
C	-5.780170	0.538720	-0.779958
C	-1.139037	1.180264	1.031496
C	-2.025615	2.985597	-2.628823
H	-3.619894	1.470340	-2.595877
C	-0.548399	2.913525	-0.704797
C	-4.275562	-4.206737	2.555904
H	-5.650801	-3.083789	3.782194
C	-2.602062	-5.241933	0.956392
C	-1.647326	-3.800862	-0.764281
C	-5.321269	2.645739	2.796884
H	-3.399207	1.571198	2.770911
C	-6.747553	2.168903	0.890723
C	-6.943476	0.704046	-1.540599
C	-0.056768	1.636154	1.786930
C	-0.927733	3.479317	-1.946207
H	-2.325137	3.407852	-3.589325
C	0.569309	3.277029	0.095846
H	-4.418831	-5.151350	3.083645
C	-1.762718	-5.056877	-0.126356
C	-6.507646	2.845995	2.114149
H	-5.121658	3.162486	3.736928
C	-7.903867	2.272957	0.067153
C	-7.987801	1.557613	-1.114691
C	0.794102	2.659265	1.311063
H	-0.333184	4.297779	-2.356011
H	-1.168148	-5.890298	-0.501225
H	-7.269613	3.524728	2.502009
H	-8.875264	1.650276	-1.741661
H	1.654327	2.945726	1.912228
Br	1.801921	4.599769	-0.510807
Br	-9.348402	3.408780	0.580516
Br	-2.707404	-6.962458	1.775231
Br	0.281004	0.852810	3.478673
Br	-7.104656	-0.224674	-3.185861
Br	-0.465478	-3.623270	-2.237883
Ir	4.558856	0.220549	-0.089914
N	2.771060	0.714685	-1.222731
N	4.922405	-1.534330	-1.335850
N	5.816921	1.612788	-1.174854

C	2.730447	1.506569	-2.303854
H	3.607620	2.133677	-2.472157
C	1.651567	1.517702	-3.181095
H	1.667507	2.166403	-4.058431
C	0.567719	0.676104	-2.904039
H	-0.292970	0.636061	-3.574985
C	0.580569	-0.101180	-1.752668
H	-0.265859	-0.744463	-1.520741
C	1.706592	-0.076041	-0.907750
C	1.878171	-0.896029	0.292964
C	0.827790	-1.659303	0.833138
H	-0.159663	-1.625502	0.380041
C	1.038565	-2.434409	1.967580
H	0.217109	-3.019037	2.388569
C	2.304997	-2.439821	2.569267
H	2.476842	-3.043909	3.465563
C	3.350541	-1.678873	2.039452
H	4.328822	-1.699190	2.525047
C	3.173763	-0.889593	0.888199
C	4.199500	-1.912808	-2.399942
H	3.394078	-1.240936	-2.700824
C	4.441990	-3.094143	-3.091773
H	3.824543	-3.361423	-3.950729
C	5.481119	-3.917935	-2.644394
H	5.702632	-4.859437	-3.153248
C	6.227661	-3.529190	-1.538357
H	7.034205	-4.163145	-1.170985
C	5.937613	-2.319582	-0.879456
C	6.646521	-1.805146	0.296112
C	7.749230	-2.473624	0.862971
H	8.111560	-3.409535	0.430446
C	8.393451	-1.950797	1.978907
H	9.248383	-2.472550	2.415893
C	7.932634	-0.747223	2.532714
H	8.434575	-0.327083	3.409770
C	6.839896	-0.080552	1.977756
H	6.499775	0.851035	2.433474
C	6.158984	-0.583870	0.850836
C	6.463675	1.351032	-2.319312
H	6.390363	0.323221	-2.682495
C	7.183955	2.319150	-3.010892
H	7.697154	2.062457	-3.939058
C	7.227986	3.613738	-2.478362
H	7.778167	4.406611	-2.991262

C	6.567927	3.881513	-1.284430
H	6.595415	4.882001	-0.852959
C	5.861667	2.858573	-0.624884
C	5.153031	2.995849	0.650042
C	5.177980	4.181102	1.409280
H	5.700167	5.066210	1.037052
C	4.551089	4.235716	2.649805
H	4.574921	5.155600	3.238878
C	3.902126	3.091399	3.138970
H	3.413583	3.119029	4.117830
C	3.861376	1.918061	2.384220
H	3.340416	1.045843	2.782555
C	4.468553	1.833516	1.115547

Table S16. The coordinate of Conformer 2 of I-Al(qBr_2)$_3$ in S_0 state calculated at the level of B3LYP/def2-SVP.

	Coordinates /Angstrom		
Elements	**X**	**Y**	**Z**
Al	3.158032	-0.077231	-0.467227
N	3.446067	-1.027661	1.384243
N	1.331785	-0.958357	-0.698805
C	3.077491	-0.651091	2.600153
C	4.112413	-2.200567	1.206760
N	4.920942	0.948615	-0.298492
O	2.505921	1.401570	0.531531
O	2.811184	0.603947	-2.157477
O	4.088477	-1.604079	-1.058733
C	0.625002	-1.734366	0.109760
C	0.849386	-0.663447	-1.941937
C	3.356840	-1.444592	3.732819
H	2.542278	0.296813	2.675976
C	4.446829	-3.063247	2.290932
C	4.446402	-2.476354	-0.165390
C	6.111833	0.637609	-0.784952
C	4.748585	2.083081	0.430635
C	3.396020	2.289941	0.876388
C	1.697062	0.211486	-2.706823
C	-0.617155	-2.269468	-0.273435
H	1.035622	-1.930604	1.100723
C	-0.403591	-1.149969	-2.407689
C	4.035737	-2.639507	3.580909
H	3.031820	-1.104410	4.717192

C	5.156785	-4.254317	1.970540
C	5.149878	-3.663867	-0.398721
C	7.231951	1.465033	-0.556177
H	6.170679	-0.287704	-1.363545
C	5.822705	2.967891	0.728110
C	3.178621	3.421757	1.667111
C	1.216309	0.587544	-3.964577
C	-1.134627	-1.979606	-1.520487
H	-1.176965	-2.882445	0.428508
C	-0.816587	-0.727880	-3.703589
H	4.264044	-3.268493	4.443359
C	5.495350	-4.536712	0.658486
C	7.090870	2.615810	0.197466
H	8.199767	1.183842	-0.974137
C	5.516958	4.105783	1.528857
C	4.227937	4.316708	1.983666
C	-0.020149	0.112253	-4.458086
H	-2.104828	-2.374775	-1.821265
H	6.042206	-5.450786	0.424731
H	7.946191	3.264862	0.394229
H	4.006108	5.187064	2.601919
H	-0.354397	0.440375	-5.442707
Br	-2.516655	-1.266915	-4.384924
Br	6.888410	5.347242	1.995077
Br	5.655852	-5.474451	3.349923
Br	2.226019	1.814382	-5.004504
Br	1.435028	3.744765	2.350293
Br	5.658825	-4.092360	-2.174124
Ir	-4.464899	0.064516	0.601881
N	-4.858021	2.007155	1.508450
N	-5.818508	0.266527	-1.075591
N	-2.798629	0.872656	-0.544379
C	-4.220785	3.154176	1.231080
H	-3.467781	3.108692	0.442516
C	-4.488355	4.342939	1.900696
H	-3.944149	5.251955	1.639841
C	-5.459479	4.327446	2.908573
H	-5.698780	5.237424	3.464417
C	-6.116254	3.137991	3.200289
H	-6.870123	3.106402	3.986319
C	-5.805698	1.965374	2.486369
C	-6.426332	0.655002	2.701012
C	-7.446726	0.452412	3.650770
H	-7.805963	1.282832	4.263586

C	-8.012634	-0.806280	3.820891
H	-8.804009	-0.959378	4.558635
C	-7.556644	-1.872315	3.031777
H	-7.998680	-2.865844	3.154574
C	-6.545090	-1.679567	2.090243
H	-6.210084	-2.529174	1.493136
C	-5.943136	-0.419992	1.895528
C	-6.525762	1.364635	-1.377134
H	-6.504462	2.163354	-0.632317
C	-7.237132	1.492923	-2.565288
H	-7.801072	2.404135	-2.771084
C	-7.201153	0.428595	-3.474553
H	-7.735756	0.492677	-4.425422
C	-6.479345	-0.716101	-3.154360
H	-6.442676	-1.555722	-3.848419
C	-5.791439	-0.794060	-1.930381
C	-5.034473	-1.952520	-1.447239
C	-5.020633	-3.186784	-2.123748
H	-5.527446	-3.296688	-3.085481
C	-4.380140	-4.288068	-1.564447
H	-4.372816	-5.246047	-2.089383
C	-3.771192	-4.159352	-0.306232
H	-3.294219	-5.029729	0.154827
C	-3.765981	-2.932348	0.357576
H	-3.292006	-2.854827	1.338289
C	-4.361761	-1.783755	-0.200744
C	-2.864615	1.370650	-1.787965
H	-3.792263	1.192004	-2.332824
C	-1.814691	2.074620	-2.367887
H	-1.907661	2.449287	-3.387773
C	-0.650400	2.266447	-1.617856
H	0.200971	2.808210	-2.035014
C	-0.573680	1.735086	-0.334243
H	0.339605	1.852750	0.244679
C	-1.664494	1.026520	0.194198
C	-1.704736	0.407117	1.524627
C	-0.567951	0.348790	2.351749
H	0.365829	0.806526	2.022194
C	-0.631846	-0.300089	3.582117
H	0.250751	-0.349339	4.225422
C	-1.840809	-0.883230	3.990501
H	-1.898019	-1.393101	4.957127
C	-2.975525	-0.811468	3.178287
H	-3.909011	-1.264022	3.521385

C	-2.946313	-0.168775	1.925332

Table S16. The coordinate of Conformer 3 of I-Al(qBr_2)$_3$ in S_0 state calculated at the level of B3LYP/def2-SVP.

	Coordinates /Angstrom		
Elements	**X**	**Y**	**Z**
Al	-3.211061	0.068868	-0.033488
N	-4.012145	1.729950	-1.044525
N	-4.161198	-1.238694	-1.313124
C	-3.549060	2.383269	-2.100491
C	-5.144874	2.151871	-0.421594
N	-2.114451	1.320415	1.152076
O	-1.714540	0.206389	-1.154030
O	-2.739370	-1.500595	0.854168
O	-4.749992	0.341854	1.013157
C	-4.871156	-1.021821	-2.408764
C	-3.986764	-2.510800	-0.857067
C	-4.210074	3.524145	-2.604336
H	-2.639335	1.986673	-2.557232
C	-5.881823	3.290484	-0.859682
C	-5.516086	1.347628	0.712407
C	-2.379864	1.791446	2.361690
C	-0.993894	1.717293	0.489446
C	-0.809531	1.072398	-0.779637
C	-3.192082	-2.605080	0.341150
C	-5.464748	-2.078033	-3.129841
H	-4.978379	0.015253	-2.732755
C	-4.547154	-3.641811	-1.519620
C	-5.365315	3.974015	-1.990658
H	-3.799636	4.040924	-3.473245
C	-7.050150	3.624652	-0.118478
C	-6.671321	1.745631	1.395201
C	-1.518467	2.716519	2.987873
H	-3.296850	1.427902	2.832577
C	-0.087100	2.673232	1.026311
C	0.330171	1.443444	-1.494036
C	-2.976884	-3.896834	0.834459
C	-5.304790	-3.377980	-2.688564
H	-6.043575	-1.856129	-4.027666
C	-4.291454	-4.920231	-0.947526
H	-5.890988	4.855220	-2.363478
C	-7.424444	2.867244	0.977922

C	-0.389479	3.162357	2.321507
H	-1.758030	3.080028	3.988398
C	1.036015	3.021649	0.222825
C	1.237479	2.412457	-1.003092
C	-3.524462	-5.033557	0.197591
H	-5.754486	-4.213140	-3.228610
H	-8.318890	3.135327	1.541319
H	0.286160	3.884471	2.783398
H	2.106318	2.674913	-1.604017
H	-3.332465	-6.017511	0.626597
Br	-5.004918	-6.494852	-1.755118
Br	2.256309	4.343890	0.846200
Br	-8.114681	5.123440	-0.628563
Br	-1.926690	-4.126387	2.399749
Br	0.656564	0.593193	-3.160386
Br	-7.219580	0.761699	2.920636
Ir	4.778753	-0.274056	0.050879
N	2.667633	-0.462194	0.547275
N	5.265764	-1.948327	1.362309
N	4.596315	-1.415383	-1.783029
C	1.788191	-1.265177	-0.073208
H	2.102727	-1.665087	-1.038455
C	0.549611	-1.580987	0.471393
H	-0.143514	-2.227097	-0.065516
C	0.210683	-1.028957	1.711906
H	-0.757227	-1.260561	2.155790
C	1.107430	-0.171099	2.337051
H	0.861219	0.274914	3.300453
C	2.347658	0.112352	1.739026
C	3.392495	0.961605	2.319523
C	3.163773	1.775818	3.443790
H	2.177596	1.800457	3.914586
C	4.183760	2.573667	3.952740
H	4.002565	3.213404	4.820009
C	5.443496	2.550039	3.336699
H	6.251538	3.173045	3.732376
C	5.677011	1.740428	2.223064
H	6.665560	1.740635	1.758248
C	4.664401	0.929457	1.676090
C	4.392038	-2.706517	2.041321
H	3.335413	-2.484849	1.882998
C	4.789320	-3.721906	2.904054
H	4.040481	-4.312752	3.433981
C	6.160800	-3.948000	3.068638

H	6.518640	-4.731653	3.741098
C	7.066981	-3.160543	2.368685
H	8.138270	-3.318216	2.489653
C	6.605788	-2.149365	1.504711
C	7.460632	-1.257496	0.715885
C	8.865628	-1.358431	0.727034
H	9.361156	-2.122139	1.331454
C	9.641773	-0.488993	-0.031274
H	10.73141	-0.570122	-0.019050
C	9.007568	0.490689	-0.809450
H	9.609698	1.179797	-1.409636
C	7.616439	0.595571	-0.827061
H	7.151337	1.370103	-1.439147
C	6.798207	-0.265755	-0.068301
C	4.645966	-2.751692	-1.879037
H	4.884193	-3.286402	-0.956685
C	4.405931	-3.426193	-3.071159
H	4.455238	-4.515730	-3.104534
C	4.103469	-2.667330	-4.208760
H	3.900233	-3.156859	-5.164458
C	4.066053	-1.281257	-4.111784
H	3.833844	-0.673901	-4.986265
C	4.324962	-0.654269	-2.879453
C	4.341961	0.791748	-2.646729
C	4.198390	1.729477	-3.686346
H	4.021144	1.396570	-4.711761
C	4.289443	3.092585	-3.422785
H	4.179890	3.818446	-4.232085
C	4.537507	3.519912	-2.108963
H	4.615716	4.588953	-1.890858
C	4.667624	2.594743	-1.073113
H	4.850034	2.953189	-0.060102
C	4.559699	1.208301	-1.299951

Table S17. The coordinate of Conformer 4 of I-Al(qBr_2)$_3$ in S_0 state calculated at the level of B3LYP/def2-SVP.

	Coordinates /Angstrom		
Elements	**X**	**Y**	**Z**
Al	-3.558117	-0.783809	0.323348
N	-2.356276	-0.995255	2.045295
N	-5.234696	-1.451487	1.321134
C	-2.246115	-0.217595	3.114486

C	-1.449242	-1.984237	1.825855
N	-2.060275	0.066044	-0.789567
O	-3.807870	1.001408	0.879738
O	-4.707878	-0.786031	-1.133592
O	-2.798251	-2.471498	-0.025384
C	-5.420254	-1.783480	2.589094
C	-6.276105	-1.516368	0.444358
C	-1.202278	-0.396546	4.046339
H	-2.980242	0.587445	3.205348
C	-0.306885	-2.173131	2.656008
C	-1.720582	-2.758667	0.644138
C	-1.228450	-0.504173	-1.648657
C	-1.990917	1.402539	-0.554621
C	-2.962320	1.871437	0.399361
C	-5.933548	-1.138738	-0.902603
C	-6.677932	-2.200314	3.070923
H	-4.552932	-1.721259	3.248749
C	-7.583799	-1.925425	0.838837
C	-0.226744	-1.348075	3.806204
H	-1.145564	0.254184	4.919903
C	0.642345	-3.144583	2.229117
C	-0.746899	-3.701279	0.298611
C	-0.251839	0.247950	-2.328658
H	-1.338846	-1.579780	-1.798819
C	-1.010081	2.232281	-1.164765
C	-2.864114	3.220210	0.749623
C	-6.972472	-1.191680	-1.839469
C	-7.752177	-2.269193	2.203548
H	-6.788482	-2.463662	4.123962
C	-8.585315	-1.948656	-0.171799
H	0.622942	-1.461862	4.481636
C	0.416889	-3.883000	1.081346
C	-0.130922	1.601687	-2.080362
H	0.419244	-0.258819	-3.018126
C	-0.986332	3.596384	-0.759977
C	-1.891421	4.070170	0.170055
C	-8.277085	-1.591012	-1.472532
H	-8.735913	-2.588248	2.552802
H	1.156900	-4.610818	0.753101
H	0.643290	2.191825	-2.571231
H	-1.848191	5.111619	0.489467
H	-9.052164	-1.614461	-2.239346
Br	-10.36963	-2.474585	0.257530
Br	0.361666	4.767549	-1.437009

Br	2.271941	-3.381652	3.188334
Br	-6.609294	-0.713687	-3.638133
Br	-4.027296	3.904663	2.088710
Br	-0.966861	-4.700166	-1.299560
Ir	4.429447	0.753298	-0.351990
N	4.945055	2.758003	0.299847
N	3.641407	1.394337	-2.271261
N	6.411314	0.234341	-1.075753
C	6.124104	3.366448	0.107085
H	6.898653	2.764818	-0.373789
C	6.359113	4.682927	0.488864
H	7.334529	5.139068	0.312473
C	5.314579	5.389372	1.098281
H	5.453587	6.428060	1.408238
C	4.095770	4.754945	1.308291
H	3.270930	5.288538	1.779785
C	3.919550	3.417588	0.907826
C	2.696078	2.632457	1.084216
C	1.573673	3.128199	1.774311
H	1.573533	4.143155	2.177961
C	0.452863	2.326749	1.950948
H	-0.425068	2.706153	2.477016
C	0.455251	1.029032	1.423524
H	-0.425025	0.406707	1.534790
C	1.559263	0.528846	0.739403
H	1.528687	-0.490715	0.350929
C	2.713178	1.309630	0.550602
C	3.594559	2.657318	-2.717944
H	3.980637	3.419263	-2.038248
C	3.074962	2.993607	-3.963679
H	3.042015	4.036898	-4.280248
C	2.597214	1.960585	-4.778977
H	2.187489	2.177637	-5.768379
C	2.638667	0.651323	-4.311860
H	2.262615	-0.162902	-4.931105
C	3.149538	0.373996	-3.029762
C	3.170396	-0.943147	-2.388065
C	2.628656	-2.091871	-2.999499
H	2.204517	-2.039077	-4.005744
C	2.618158	-3.308736	-2.326834
H	2.184980	-4.194782	-2.795049
C	3.161370	-3.379396	-1.034901
H	3.167811	-4.334931	-0.502453
C	3.697922	-2.247373	-0.421803

H	4.099014	-2.330563	0.589686
C	3.718124	-0.996983	-1.071341
C	6.860792	0.418690	-2.325181
H	6.153580	0.870602	-3.024533
C	8.144449	0.059073	-2.720762
H	8.469723	0.227866	-3.748538
C	8.988476	-0.522753	-1.766786
H	10.005416	-0.821136	-2.033271
C	8.518479	-0.723185	-0.474006
H	9.160555	-1.179878	0.278840
C	7.208317	-0.339889	-0.131724
C	6.588418	-0.509406	1.185802
C	7.258329	-1.113993	2.267191
H	8.287616	-1.464104	2.155979
C	6.614181	-1.281856	3.488577
H	7.134300	-1.755648	4.324622
C	5.290560	-0.839766	3.631220
H	4.773977	-0.974489	4.586450
C	4.623324	-0.234833	2.565735
H	3.589751	0.088552	2.700316
C	5.243291	-0.052699	1.314296

Table S18. The coordinate of Conformer 5 of I-Al(qBr_2)$_3$ in S_0 state calculated at the level of B3LYP/def2-SVP.

	Coordinates /Angstrom		
Elements	**X**	**Y**	**Z**
Al	3.297410	-0.895956	0.120642
N	4.740652	-1.067667	1.630070
N	2.162395	-2.413128	0.892493
C	4.745308	-0.567016	2.857369
C	5.818242	-1.756574	1.168463
N	4.171943	0.793884	-0.649026
O	2.447868	0.380780	1.246115
O	2.010629	-0.890201	-1.210970
O	4.539498	-1.977696	-0.781226
C	2.319578	-3.157364	1.977347
C	1.050750	-2.569157	0.115766
C	5.854043	-0.737580	3.713773
H	3.847884	-0.020988	3.158203
C	6.991219	-1.959648	1.951337
C	5.662387	-2.235050	-0.179240
C	5.029254	0.901072	-1.651117

C	3.663976	1.907273	-0.054167
C	2.718578	1.631784	0.993466
C	1.005336	-1.704156	-1.032503
C	1.365167	-4.119048	2.362101
H	3.224709	-2.990418	2.564809
C	0.020911	-3.499430	0.441796
C	6.968389	-1.423681	3.264515
H	5.823084	-0.318349	4.720698
C	8.061478	-2.666732	1.334045
C	6.763641	-2.907259	-0.721744
C	5.452247	2.164036	-2.119041
H	5.375887	-0.035524	-2.094798
C	4.023785	3.221530	-0.465545
C	2.141388	2.744543	1.612659
C	-0.131894	-1.812012	-1.836979
C	0.221310	-4.283992	1.602259
H	1.534170	-4.713756	3.260999
C	-1.113664	-3.531333	-0.415187
H	7.840416	-1.558057	3.907408
C	7.940875	-3.121105	0.032285
C	4.955908	3.313016	-1.531867
H	6.162345	2.218781	-2.945530
C	3.400931	4.303798	0.219876
C	2.486731	4.061534	1.229375
C	-1.179862	-2.706551	-1.521080
H	-0.543798	-5.006833	1.890215
H	8.770755	-3.653079	-0.434229
H	5.265281	4.299669	-1.881747
H	2.008011	4.897864	1.739607
H	-2.058212	-2.718964	-2.164479
Br	-2.572117	-4.696285	-0.025005
Br	3.816428	6.104057	-0.255018
Br	9.681339	-2.981743	2.290572
Br	-0.296029	-0.734361	-3.387391
Br	0.831717	2.472795	2.958976
Br	6.674906	-3.513734	-2.515577
Ir	-4.564631	0.953420	-0.218092
N	-4.510106	2.444983	1.369640
N	-5.610418	2.138493	-1.702909
N	-2.584036	1.481933	-0.920410
C	-3.498134	3.288371	1.618195
H	-2.662884	3.257835	0.916306
C	-3.490629	4.150495	2.709248
H	-2.640100	4.813517	2.875218

C	-4.589405	4.124388	3.576048
H	-4.625522	4.782554	4.447879
C	-5.634520	3.242871	3.323641
H	-6.490613	3.200705	3.996788
C	-5.583163	2.387960	2.206628
C	-6.599291	1.392067	1.850895
C	-7.791641	1.235480	2.584374
H	-8.000612	1.876408	3.444651
C	-8.720248	0.265776	2.221653
H	-9.644539	0.147889	2.792614
C	-8.454981	-0.556170	1.116063
H	-9.179579	-1.322817	0.824541
C	-7.276891	-0.405645	0.383726
H	-7.094198	-1.059836	-0.470995
C	-6.313349	0.565850	0.722383
C	-5.977487	3.419755	-1.560978
H	-5.738173	3.878795	-0.598805
C	-6.623484	4.129699	-2.567445
H	-6.905933	5.171783	-2.409190
C	-6.898259	3.466076	-3.769695
H	-7.403703	3.985599	-4.587650
C	-6.526719	2.134189	-3.912699
H	-6.739778	1.599926	-4.838472
C	-5.877675	1.466082	-2.857565
C	-5.460784	0.061480	-2.865390
C	-5.698977	-0.798397	-3.955484
H	-6.172880	-0.420854	-4.865232
C	-5.344243	-2.141335	-3.882709
H	-5.532604	-2.807155	-4.728352
C	-4.757257	-2.632158	-2.705624
H	-4.492575	-3.691367	-2.628379
C	-4.507045	-1.782149	-1.627998
H	-4.057463	-2.187845	-0.720849
C	-4.834195	-0.412910	-1.674878
C	-2.298047	2.342093	-1.908823
H	-3.150383	2.709236	-2.484410
C	-0.999578	2.756158	-2.187960
H	-0.813581	3.460292	-3.000648
C	0.042195	2.231770	-1.414476
H	1.079898	2.513399	-1.605708
C	-0.254602	1.323249	-0.407700
H	0.532539	0.875944	0.186876
C	-1.584818	0.954476	-0.162167
C	-2.016065	0.020592	0.882309

C	-1.105778	-0.620431	1.742600
H	-0.038889	-0.399750	1.684553
C	-1.567021	-1.532412	2.687931
H	-0.860683	-2.032067	3.354843
C	-2.939045	-1.806505	2.770996
H	-3.303902	-2.534455	3.502161
C	-3.848264	-1.146395	1.940830
H	-4.915202	-1.359414	2.036843
C	-3.420084	-0.205556	0.986418

Table S19. The coordinate of Conformer 1 of I-Gaq$_3$ in S_0 state calculated at the level of B3LYP/def2-SVP.

	Coordinates /Angstrom		
Elements	**X**	**Y**	**Z**
O	-1.701867	-0.752109	0.366113
C	-1.565857	-2.049290	0.231314
N	-3.151769	2.009560	0.114877
N	-4.367153	-0.503314	1.218339
O	-5.103644	0.318045	-1.193462
O	-2.430091	0.780559	-2.123156
C	-0.646354	-2.835693	0.927567
C	-2.428580	-2.733270	-0.698300
C	-2.813294	2.790188	-0.942683
C	-3.522829	2.556431	1.259831
C	-5.693496	-0.323051	1.003798
C	-3.912566	-0.900979	2.396623
C	-6.053537	0.129271	-0.319941
C	-2.411239	2.085404	-2.136345
C	-0.557156	-4.224445	0.690744
C	-2.328202	-4.134013	-0.947724
N	-3.351168	-1.956099	-1.317067
C	-2.861546	4.214627	-0.883396
C	-3.589919	3.957877	1.419948
H	-3.777181	1.877531	2.075830
C	-6.664633	-0.554634	2.022842
C	-4.800228	-1.156521	3.466575
H	-2.828504	-0.999612	2.494431
C	-7.417088	0.331116	-0.563130
C	-2.022150	2.866054	-3.229109
C	-1.360100	-4.880243	-0.228609
H	0.196235	-4.789730	1.245301
C	-3.223229	-4.659263	-1.915990

C	-4.186250	-2.464456	-2.207963
C	-2.483145	4.956577	-2.031016
C	-3.272058	4.777496	0.353006
H	-3.900640	4.372815	2.380345
C	-6.159524	-0.986436	3.279342
C	-8.032276	-0.337522	1.718343
H	-4.397670	-1.483658	4.426935
C	-8.375518	0.095580	0.446382
C	-2.066157	4.275146	-3.163546
C	-4.137878	-3.834434	-2.547377
H	-3.183751	-5.725921	-2.154959
H	-4.908960	-1.771303	-2.645189
H	-3.326681	5.865144	0.453056
H	-6.859939	-1.179571	4.096902
H	-9.429834	0.264761	0.209428
H	-1.764011	4.844943	-4.046777
H	-4.832237	-4.227348	-3.292223
H	-7.722215	0.676461	-1.552919
H	0.016190	-2.349959	1.639493
H	-1.700539	2.361136	-4.141917
H	-8.792779	-0.511071	2.482420
H	-2.516991	6.047768	-2.006025
H	-1.262546	-5.953721	-0.404693
Ga	-3.260853	-0.009923	-0.546233
Ir	2.763534	0.046608	0.219941
N	1.856788	1.960771	-0.222045
N	1.439961	-1.083449	-1.076135
N	4.316928	0.151168	-1.302740
C	2.212548	2.778968	-1.222307
H	3.039299	2.435998	-1.848476
C	1.580456	3.994934	-1.454790
H	1.900222	4.630587	-2.281869
C	0.537960	4.369683	-0.600313
H	0.012086	5.313700	-0.747617
C	0.168370	3.519690	0.434675
H	-0.640597	3.795120	1.108682
C	0.843070	2.300829	0.620402
C	0.577098	1.335980	1.689937
C	-0.418400	1.538181	2.661697
H	-1.057133	2.422905	2.619382
C	-0.590908	0.623513	3.696344
H	-1.363349	0.786047	4.452856
C	0.258798	-0.490506	3.771315
H	0.148275	-1.202742	4.595071

C	1.243453	-0.698807	2.803918
H	1.897716	-1.569663	2.885570
C	1.416245	0.183662	1.719077
C	0.480302	-0.568590	-1.856856
H	0.262016	0.490814	-1.726833
C	-0.226469	-1.336164	-2.776743
H	-1.026221	-0.870046	-3.350739
C	0.092988	-2.692618	-2.886421
H	-0.438672	-3.332076	-3.595206
C	1.076084	-3.231342	-2.063123
H	1.321956	-4.290768	-2.118759
C	1.735307	-2.411408	-1.132657
C	2.744490	-2.860482	-0.166108
C	3.064963	-4.218754	0.015129
H	2.573479	-4.986447	-0.587681
C	3.999381	-4.600294	0.974314
H	4.243623	-5.656172	1.115550
C	4.619597	-3.615282	1.756496
H	5.355490	-3.907065	2.512174
C	4.305870	-2.265812	1.580989
H	4.800598	-1.516755	2.203556
C	3.361364	-1.845853	0.624580
C	4.223185	-0.310460	-2.558008
H	3.262787	-0.748089	-2.837224
C	5.277324	-0.244586	-3.462657
H	5.154750	-0.631780	-4.475419
C	6.482928	0.320008	-3.029712
H	7.339629	0.387274	-3.705037
C	6.582400	0.792824	-1.726580
H	7.515176	1.229351	-1.370497
C	5.479318	0.704108	-0.856561
C	5.458299	1.165672	0.534400
C	6.569812	1.782542	1.141161
H	7.492722	1.939562	0.577269
C	6.508507	2.200251	2.466043
H	7.373236	2.677715	2.933433
C	5.324608	2.000437	3.191737
H	5.267233	2.325894	4.235102
C	4.219794	1.390822	2.596851
H	3.312048	1.244262	3.185175
C	4.246500	0.952050	1.257441

Table S20. The coordinate of Conformer 2 of I-Gaq$_3$ in S_0 state calculated at the level of

B3LYP/def2-SVP.

	Coordinates /Angstrom		
Elements	**X**	**Y**	**Z**
O	-1.835241	-0.650749	0.244520
C	-1.653486	-1.948338	0.176735
N	-3.299273	2.024660	-0.119730
N	-4.486969	-0.433982	1.159658
O	-5.306302	0.238838	-1.270938
O	-2.648070	0.662748	-2.307206
C	-0.669677	-2.649886	0.873065
C	-2.526475	-2.719298	-0.669239
C	-2.914562	2.738430	-1.207651
C	-3.647502	2.638800	0.998159
C	-5.823019	-0.303856	0.971314
C	-3.991753	-0.760176	2.343598
C	-6.228702	0.069262	-0.363641
C	-2.547421	1.961960	-2.368948
C	-0.530147	-4.045404	0.717984
C	-2.379485	-4.128847	-0.834130
N	-3.505548	-2.018247	-1.293816
C	-2.881749	4.164704	-1.207792
C	-3.644663	4.047592	1.096130
H	-3.941855	2.009646	1.840551
C	-6.761293	-0.513060	2.025373
C	-4.844528	-0.988010	3.447564
H	-2.903116	-0.825456	2.418513
C	-7.602943	0.219723	-0.581060
C	-2.100952	2.674030	-3.486779
C	-1.348301	-4.789093	-0.118270
H	0.272905	-4.544238	1.266984
C	-3.298760	-4.749767	-1.719927
C	-4.360619	-2.615680	-2.107335
C	-2.446333	4.835476	-2.378535
C	-3.273355	4.801537	-0.001326
H	-3.941590	4.520143	2.034059
C	-6.212644	-0.867245	3.287902
C	-8.141879	-0.351205	1.745980
H	-4.408511	-1.256570	4.411481
C	-8.528851	0.007805	0.463611
C	-2.058453	4.084701	-3.477050
C	-4.275602	-4.003319	-2.355885
H	-3.228621	-5.827884	-1.890696
H	-5.127223	-1.979344	-2.556187
H	-3.270099	5.893882	0.051571

H	-6.886560	-1.040604	4.131732
H	-9.593225	0.134297	0.245864
H	-1.712534	4.599236	-4.377972
H	-4.988924	-4.471021	-3.036848
H	-7.942763	0.505116	-1.578598
H	-0.004583	-2.083421	1.519607
H	-1.802043	2.114085	-4.374942
H	-8.878139	-0.508678	2.536815
H	-2.413303	5.926786	-2.397497
H	-1.214038	-5.866958	-0.232369
Ga	-3.444384	-0.023181	-0.664651
Ir	2.844534	0.060622	0.236764
N	1.817653	1.931628	-0.108538
N	1.516149	-1.073258	-1.054109
N	4.339008	0.295010	-1.326049
C	2.110756	2.812578	-1.075240
H	2.960681	2.556111	-1.711468
C	1.388194	3.985184	-1.262024
H	1.658742	4.676567	-2.061361
C	0.318493	4.243436	-0.398274
H	-0.272241	5.153249	-0.507668
C	0.010471	3.326230	0.599263
H	-0.822755	3.511059	1.275140
C	0.778687	2.157798	0.742196
C	0.599772	1.140981	1.782522
C	-0.403059	1.227556	2.763964
H	-1.133902	2.039492	2.735572
C	-0.470648	0.285879	3.787030
H	-1.246700	0.359662	4.553559
C	0.485241	-0.740404	3.836789
H	0.454892	-1.471055	4.650897
C	1.466122	-0.846067	2.849387
H	2.189253	-1.662924	2.899976
C	1.538551	0.067624	1.777547
C	0.520844	-0.566071	-1.795152
H	0.297069	0.491028	-1.650861
C	-0.215128	-1.338047	-2.688138
H	-1.042938	-0.878751	-3.227791
C	0.113195	-2.691020	-2.812816
H	-0.441903	-3.335013	-3.499128
C	1.138588	-3.220188	-2.036138
H	1.394206	-4.276511	-2.107722
C	1.828997	-2.396031	-1.132594
C	2.890200	-2.836136	-0.218007

C	3.248893	-4.189371	-0.072859
H	2.743049	-4.960043	-0.659922
C	4.241478	-4.563048	0.829260
H	4.514497	-5.615220	0.942542
C	4.883558	-3.575394	1.589786
H	5.666131	-3.860819	2.299586
C	4.530626	-2.231254	1.452327
H	5.040218	-1.479925	2.059925
C	3.525139	-1.819854	0.556402
C	4.225486	-0.125234	-2.594248
H	3.277096	-0.596717	-2.859491
C	5.246103	0.021329	-3.527447
H	5.108380	-0.334473	-4.549732
C	6.438550	0.625059	-3.111034
H	7.269111	0.755765	-3.809304
C	6.558986	1.054586	-1.794717
H	7.482508	1.519776	-1.451004
C	5.489815	0.883881	-0.895304
C	5.493332	1.292242	0.512146
C	6.593645	1.939507	1.107653
H	7.489413	2.161282	0.522117
C	6.554954	2.305965	2.448430
H	7.410718	2.807358	2.907184
C	5.404989	2.024858	3.201282
H	5.365223	2.311056	4.256914
C	4.311433	1.384352	2.618003
H	3.430615	1.175085	3.227912
C	4.316664	0.994370	1.263347

Table S21. The coordinate of Conformer 3 of I-Gaq$_3$ in S_0 state calculated at the level of B3LYP/def2-SVP.

	Coordinates /Angstrom		
Elements	**X**	**Y**	**Z**
O	5.762608	-0.760876	0.163118
C	6.065901	-1.168875	-1.038123
N	2.887817	0.108449	0.083917
N	5.024617	-2.950242	1.951530
O	2.475700	-2.531126	1.375396
O	4.071649	-0.235002	2.434438
C	7.194131	-0.763774	-1.760001
C	5.188572	-2.115728	-1.683874

C	2.788797	1.121871	0.986607
C	2.288007	0.200823	-1.091899
C	4.128027	-3.853782	2.420674
C	6.316026	-3.078819	2.202333
C	2.749340	-3.595517	2.087245
C	3.454227	0.902939	2.246383
C	7.446046	-1.271433	-3.053071
C	5.448990	-2.629188	-2.989696
N	4.100070	-2.487164	-0.964633
C	2.048149	2.307320	0.714721
C	1.525724	1.331454	-1.442936
H	2.390771	-0.643918	-1.774651
C	4.524604	-4.982947	3.194004
C	6.803620	-4.163232	2.965558
H	6.967545	-2.304442	1.789693
C	1.804151	-4.516293	2.546485
C	3.371547	1.930373	3.191199
C	6.608048	-2.185059	-3.674542
H	8.339987	-0.926098	-3.580144
C	4.502611	-3.560141	-3.495635
C	3.234139	-3.361004	-1.452088
C	1.989524	3.315025	1.712353
C	1.400391	2.374734	-0.546767
H	1.022843	1.358576	-2.407057
C	5.916155	-5.104401	3.453451
C	3.523830	-5.884566	3.640525
H	7.874596	-4.242903	3.160147
C	2.201107	-5.637383	3.310669
C	2.651748	3.113666	2.911970
C	3.407763	-3.925895	-2.735031
H	4.652005	-3.983831	-4.492725
H	2.384400	-3.612387	-0.814977
H	0.794097	3.246476	-0.801127
H	6.275683	-5.950717	4.045499
H	1.428171	-6.331509	3.652397
H	2.611447	3.890553	3.681084
H	2.672293	-4.640575	-3.108467
H	0.751205	-4.353191	2.307296
H	7.874308	-0.044654	-1.299503
H	3.873174	1.794006	4.151309
H	0.541951	-2.261009	-0.165890
H	1.423182	4.228050	1.518954
H	6.825077	-2.563928	-4.675302
Ga	4.060259	-1.418998	0.898615

Ir	-3.087225	1.294766	-0.496778
N	-3.884048	3.059814	0.473977
N	-1.534156	1.045701	1.008288
N	-4.385996	-0.158404	0.474129
C	-4.838676	3.069179	1.414830
H	-5.310604	2.106290	1.622884
C	-5.209828	4.225530	2.092859
H	-5.993528	4.188737	2.851230
C	-4.552610	5.419237	1.770680
H	-4.808451	6.349937	2.283079
C	-3.571616	5.411696	0.785033
H	-3.055056	6.333106	0.516363
C	-3.244921	4.212196	0.126735
C	-2.269717	4.071164	-0.959420
C	-1.596425	5.170926	-1.526316
H	-1.727791	6.174511	-1.113745
C	-0.774893	4.996545	-2.636153
H	-0.255995	5.851040	-3.076838
C	-0.646964	3.716601	-3.199140
H	-0.027676	3.577836	-4.090721
C	-1.294734	2.621924	-2.626999
H	-1.181982	1.633610	-3.077159
C	-2.095267	2.751906	-1.474806
C	-1.370571	1.795260	2.108143
H	-1.984514	2.695380	2.172890
C	-0.476238	1.456724	3.117870
H	-0.363043	2.104124	3.988068
C	0.271296	0.283856	2.973462
H	0.988888	-0.020818	3.737256
C	0.116570	-0.485383	1.824775
H	0.726219	-1.377596	1.686413
C	-0.790041	-0.081168	0.832072
C	-1.021351	-0.782583	-0.436912
C	-0.239567	-1.884836	-0.829441
H	3.805857	-6.756102	4.234789
C	-0.444748	-2.477294	-2.073016
H	0.167196	-3.327354	-2.385635
C	-1.440789	-1.971861	-2.921434
H	-1.604765	-2.432538	-3.900519
C	-2.230784	-0.889581	-2.524937
H	-3.007804	-0.518949	-3.197764
C	-2.048592	-0.262593	-1.277418
C	-4.136687	-0.791605	1.629579
H	-3.212916	-0.513154	2.140152

C	-4.992273	-1.751647	2.158782
H	-4.748280	-2.241045	3.102999
C	-6.153213	-2.066371	1.442819
H	-6.851483	-2.818637	1.818126
C	-6.408857	-1.414407	0.242494
H	-7.303860	-1.652823	-0.331435
C	-5.507790	-0.448123	-0.242452
C	-5.664051	0.304886	-1.490015
C	-6.786426	0.150257	-2.327019
H	-7.584660	-0.546475	-2.059417
C	-6.895056	0.883147	-3.503696
H	-7.767192	0.760712	-4.150515
C	-5.872828	1.780480	-3.846196
H	-5.950205	2.362706	-4.769600
C	-4.758797	1.939592	-3.021252
H	-3.979160	2.644792	-3.314803
C	-4.612795	1.211195	-1.823145

Table S22. The coordinate of Conformer 4 of I-Gaq$_3$ in S_0 state calculated at the level of B3LYP/def2-SVP.

	Coordinates /Angstrom		
Elements	**X**	**Y**	**Z**
O	6.073525	-2.381021	1.010981
C	7.151340	-2.123008	0.324452
N	2.899680	-0.284937	-0.402481
N	3.291888	-2.528182	1.774605
O	3.780987	-2.938184	-0.796948
O	4.622545	0.066441	1.569158
C	8.420545	-2.637499	0.610044
C	7.048059	-1.244375	-0.816880
C	2.899154	0.928323	0.204242
C	2.049220	-0.546838	-1.384193
C	2.643721	-3.559067	1.177476
C	3.132739	-2.273459	3.061213
C	2.933865	-3.746534	-0.225257
C	3.851240	1.080331	1.277347
C	9.534960	-2.299692	-0.186950
C	8.178974	-0.904905	-1.618928
N	5.806396	-0.759591	-1.077910
C	2.013075	1.972034	-0.186830
C	1.126885	0.421136	-1.829316
H	2.108052	-1.543322	-1.825005

C	1.730297	-4.391455	1.889922
C	2.259754	-3.053184	3.853074
H	3.700425	-1.428599	3.459435
C	2.256599	-4.790147	-0.868218
C	3.865565	2.317404	1.931571
C	9.441861	-1.453740	-1.281458
H	10.507959	-2.724893	0.075452
C	7.934672	-0.027793	-2.708286
C	5.603391	0.056755	-2.098486
C	2.076220	3.208617	0.505586
C	1.111189	1.671756	-1.241509
H	0.422972	0.169835	-2.620447
C	1.560268	-4.093137	3.269127
C	1.069947	-5.429243	1.185623
H	2.142553	-2.819436	4.912737
C	1.345020	-5.604752	-0.162408
C	2.990036	3.354382	1.537179
C	6.660192	0.450310	-2.947511
H	8.767354	0.264252	-3.354371
H	4.583282	0.413115	-2.257338
H	0.398310	2.424067	-1.581501
H	0.870567	-4.699297	3.862979
H	0.836902	-6.405472	-0.706920
H	3.039500	4.305986	2.074560
H	6.455244	1.126098	-3.779701
H	2.450978	-4.960630	-1.928802
H	8.527469	-3.305767	1.466567
H	4.575564	2.466263	2.747668
H	0.131962	-2.834691	-0.016921
H	1.400281	4.017566	0.221853
H	10.318371	-1.205389	-1.883366
Ga	4.467159	-1.498802	0.377452
Ir	-3.239564	0.992870	-0.206666
N	-3.637887	3.012478	0.470574
N	-1.396535	0.843897	0.936173
N	-4.391278	-0.027884	1.329728
C	-4.351623	3.345891	1.554953
H	-4.834041	2.518571	2.080352
C	-4.474395	4.659646	1.994908
H	-5.066537	4.887584	2.882626
C	-3.823343	5.662827	1.266834
H	-3.890107	6.707833	1.579372
C	-3.094255	5.317732	0.133807
H	-2.589660	6.087304	-0.450238

C	-3.011854	3.971844	-0.266892
C	-2.320624	3.476864	-1.462479
C	-1.692178	4.333665	-2.387133
H	-1.639784	5.409155	-2.200018
C	-1.148347	3.822505	-3.562069
H	-0.663732	4.488799	-4.279483
C	-1.255347	2.447601	-3.825275
H	-0.854995	2.043314	-4.759963
C	-1.856258	1.592283	-2.901452
H	-1.925982	0.525312	-3.123481
C	-2.377125	2.067053	-1.680796
C	-0.930081	1.758363	1.798429
H	-1.457136	2.714053	1.816405
C	0.160452	1.518554	2.626048
H	0.521529	2.296178	3.298876
C	0.783392	0.269497	2.550157
H	1.640492	0.040456	3.183628
C	0.307068	-0.675659	1.648084
H	0.779808	-1.650578	1.568905
C	-0.788940	-0.370335	0.825400
C	-1.369768	-1.265928	-0.179204
C	-0.777322	-2.497505	-0.516209
H	0.358909	-6.072771	1.707014
C	-1.337327	-3.295089	-1.508973
H	-0.865961	-4.244707	-1.770757
C	-2.501237	-2.863037	-2.161678
H	-2.947058	-3.485998	-2.943166
C	-3.097885	-1.645273	-1.824595
H	-4.004940	-1.330489	-2.345806
C	-2.552903	-0.808787	-0.832036
C	-3.927266	-0.445332	2.516545
H	-2.878908	-0.225242	2.726787
C	-4.720585	-1.121630	3.436631
H	-4.300534	-1.441727	4.391461
C	-6.053884	-1.377662	3.095214
H	-6.712883	-1.908420	3.786810
C	-6.532713	-0.953233	1.861443
H	-7.565752	-1.150505	1.576458
C	-5.683137	-0.270914	0.970464
C	-6.065553	0.221555	-0.355850
C	-7.367828	0.069909	-0.871285
H	-8.143603	-0.424271	-0.281160
C	-7.684010	0.546063	-2.138963
H	-8.695015	0.426407	-2.535749

C	-6.690025	1.180025	-2.899098
H	-6.930013	1.557905	-3.897670
C	-5.398110	1.333813	-2.394992
H	-4.643722	1.827282	-3.010402
C	-5.041633	0.862891	-1.115558

Table S23. The coordinate of Conformer 5 of I-Gaq$_3$ in S_0 state calculated at the level of B3LYP/def2-SVP.

	Coordinates /Angstrom		
Elements	**X**	**Y**	**Z**
O	5.841238	-0.551469	-0.098632
C	5.963903	-0.973390	-1.327084
N	2.948091	0.153645	0.073353
N	5.488420	-2.591837	1.948121
O	2.862930	-2.412262	1.650506
O	4.322071	0.034237	2.344433
C	6.911426	-0.506128	-2.244603
C	5.065404	-2.002641	-1.793667
C	2.799705	1.183637	0.949170
C	2.288162	0.155441	-1.074497
C	4.725535	-3.474910	2.639804
C	6.806993	-2.611641	2.040418
C	3.300606	-3.344739	2.457119
C	3.551645	1.076914	2.174997
C	6.968227	-1.027932	-3.555145
C	5.125278	-2.526827	-3.119760
N	4.152354	-2.433180	-0.888299
C	1.936075	2.284418	0.683168
C	1.416831	1.204778	-1.424489
H	2.430191	-0.699394	-1.737095
C	5.296987	-4.463695	3.492173
C	7.463853	-3.556094	2.860551
H	7.343280	-1.861215	1.454297
C	2.490828	-4.244472	3.155952
C	3.387583	2.105232	3.108667
C	6.105502	-2.015515	-4.006791
H	7.724365	-0.630428	-4.238114
C	4.172768	-3.532040	-3.437651
C	3.278771	-3.376164	-1.201547
C	1.811542	3.303912	1.661567
C	1.237583	2.259588	-0.551584
H	0.869566	1.156185	-2.363706

C	6.715196	-4.470914	3.577403
C	4.428474	-5.350651	4.179572
H	8.553702	-3.549026	2.919114
C	3.060504	-5.224948	3.999493
C	2.531012	3.195976	2.840603
C	3.261252	-3.957586	-2.488998
H	4.169716	-3.964586	-4.442043
H	2.576289	-3.663958	-0.416717
H	0.551066	3.069700	-0.801006
H	7.206570	-5.208244	4.218522
H	2.388984	-5.907148	4.528527
H	2.435349	3.979361	3.598180
H	2.525171	-4.730089	-2.718389
H	1.407258	-4.174430	3.039946
H	7.603856	0.274778	-1.924406
H	3.942705	2.046929	4.047003
H	0.514879	-2.425016	-0.782700
H	1.148562	4.150302	1.472100
H	6.168391	-2.400762	-5.026478
Ga	4.287330	-1.245788	0.890150
Ir	-3.146887	1.102991	-0.506926
N	-3.842234	2.811427	0.628415
N	-1.502763	0.715286	0.864638
N	-4.415772	-0.384580	0.445663
C	-4.743626	2.775567	1.619817
H	-5.221389	1.808805	1.793665
C	-5.055081	3.891846	2.388768
H	-5.796157	3.818822	3.186369
C	-4.393533	5.093093	2.106011
H	-4.602557	5.992843	2.689926
C	-3.468724	5.133231	1.068272
H	-2.950635	6.061975	0.829585
C	-3.201945	3.973386	0.318190
C	-2.291181	3.887717	-0.828248
C	-1.617318	5.008938	-1.350922
H	-1.702115	5.983701	-0.863885
C	-0.851615	4.893307	-2.507425
H	-0.329994	5.763909	-2.911704
C	-0.779735	3.652274	-3.160084
H	-0.201213	3.560042	-4.084249
C	-1.428483	2.534994	-2.634402
H	-1.356232	1.578136	-3.155575
C	-2.175076	2.603793	-1.440886
C	-1.259715	1.362455	2.013936

H	-1.868743	2.248139	2.204279
C	-0.289350	0.944299	2.918654
H	-0.109488	1.514932	3.830069
C	0.452634	-0.199644	2.609787
H	1.234725	-0.566735	3.276817
C	0.204380	-0.867490	1.414477
H	0.806266	-1.739639	1.170451
C	-0.773297	-0.385881	0.532809
C	-1.094747	-0.971013	-0.774751
C	-0.331014	-2.011331	-1.334740
H	4.845228	-6.115586	4.837960
C	-0.631500	-2.500455	-2.603001
H	-0.027950	-3.299316	-3.041472
C	-1.712310	-1.952929	-3.309905
H	-1.956778	-2.333468	-4.306385
C	-2.479389	-0.925989	-2.753880
H	-3.316218	-0.514749	-3.323174
C	-2.193637	-0.398925	-1.479473
C	-4.109830	-1.098143	1.539141
H	-3.145123	-0.879083	2.000742
C	-4.959027	-2.065337	2.065495
H	-4.668645	-2.621112	2.958458
C	-6.175395	-2.299716	1.413462
H	-6.871380	-3.053875	1.789238
C	-6.489746	-1.564739	0.276560
H	-7.429484	-1.738425	-0.246871
C	-5.592002	-0.595307	-0.208518
C	-5.807154	0.242313	-1.391889
C	-6.982253	0.167520	-2.165025
H	-7.779422	-0.529480	-1.894893
C	-7.144130	0.979697	-3.282061
H	-8.056951	0.918797	-3.879545
C	-6.123087	1.876909	-3.628826
H	-6.242812	2.521042	-4.505372
C	-4.956474	1.956647	-2.867417
H	-4.177803	2.662652	-3.161929
C	-4.755980	1.146195	-1.731803

Table S24. The original SOC matrix elements calculated for I-Alq_3.

States		SOC elements /cm^{-1}				
T_i	S_j	Conformer 1	Conformer 2	Conformer 3	Conformer 4	Conformer 5
1	0	0.62	1.96	15.25	0.82	0.63

1	1	2.56	5.07	14.53	4.42	6.25
1	2	6.21	12.72	647.62	12.41	6.90
1	3	5.67	15.38	580.36	12.96	8.48
1	4	1.42	9.23	52.35	4.06	5.36
1	5	0.30	7.37	40.19	8.12	0.92
1	6	1.06	2.20	40.10	0.75	1.20
1	7	0.26	4.60	59.07	2.57	1.32
1	8	0.34	2.26	36.57	1.23	0.75
1	9	2.15	4.02	15.90	0.59	0.44
1	10	1.21	1.70	8.01	2.32	1.74
1	11	1.04	0.80	3.81	1.23	1.04
1	12	2.17	5.36	9.75	2.34	0.59
1	13	0.60	3.95	2.84	0.83	0.68
1	14	1.74	3.26	3.73	0.82	0.64
1	15	0.29	2.93	3.82	0.80	0.62
1	16	1.13	3.21	3.37	0.11	0.26
1	17	0.71	1.27	4.70	0.37	0.34
1	18	0.64	0.64	6.06	0.29	0.57
1	19	0.41	0.55	41.13	0.27	0.23
1	20	0.66	0.46	6.20	0.18	0.16
1	21	0.78	0.44	2.91	0.61	0.32
1	22	0.47	0.86	1.59	0.16	0.64
1	23	0.09	0.50	9.32	0.40	0.26
1	24	0.22	0.21	53.67	0.30	0.13
1	25	0.50	0.55	4.96	0.27	0.14
1	26	0.10	0.40	38.21	0.19	0.18
1	27	0.32	0.19	15.34	0.28	0.10
1	28	0.22	0.56	23.41	0.11	0.30
1	29	0.14	0.80	45.25	0.21	0.17
1	30	0.19	0.56	14.67	0.36	0.31
2	0	9.27	1.54	3.17	4.17	0.39
2	1	62.23	43.72	10.13	38.97	9.11
2	2	73.16	15.48	14.75	22.08	5.91
2	3	78.33	32.02	9.71	34.04	2.39
2	4	5.42	23.14	12.26	11.74	2.48
2	5	3.95	5.28	11.96	15.45	2.10
2	6	2.93	4.30	19.80	19.38	4.68
2	7	1.49	19.96	15.86	9.30	11.56
2	8	5.62	6.21	4.36	2.84	4.26
2	9	8.23	4.60	14.59	4.01	6.45
2	10	4.14	1.21	21.39	15.98	4.66
2	11	6.95	3.71	2.36	7.31	5.69
2	12	5.10	8.83	0.87	5.66	0.96
2	13	2.35	9.56	0.22	1.76	1.87

2	14	5.02	5.56	0.56	1.51	2.40
2	15	5.46	4.39	0.71	2.25	3.40
2	16	5.05	6.01	0.80	1.97	1.42
2	17	3.05	2.88	1.66	0.97	0.38
2	18	3.93	0.64	0.69	2.88	2.33
2	19	3.91	1.75	1.12	1.81	1.15
2	20	4.16	0.58	0.76	1.06	0.36
2	21	2.25	1.07	0.50	0.23	0.80
2	22	0.77	0.34	0.32	0.83	0.62
2	23	1.76	1.15	0.75	1.34	0.55
2	24	0.97	0.60	0.76	0.81	0.36
2	25	0.33	0.43	1.37	0.25	0.21
2	26	1.60	0.77	1.49	0.49	0.23
2	27	1.70	0.22	1.10	1.70	0.46
2	28	2.35	0.55	0.61	0.83	0.23
2	29	0.68	0.04	1.63	1.02	0.35
2	30	1.75	1.46	0.49	0.35	0.09
3	0	21.19	19.37	0.42	2.08	2.67
3	1	1.83	4.76	18.49	10.06	29.79
3	2	46.73	11.63	10.71	5.65	12.26
3	3	42.41	16.87	14.24	8.83	3.82
3	4	6.79	20.72	1.63	16.72	18.04
3	5	23.61	16.64	4.36	5.14	2.37
3	6	4.03	40.44	3.38	15.02	4.15
3	7	18.67	33.53	3.74	6.18	8.04
3	8	38.22	15.57	3.01	2.60	1.65
3	9	61.94	24.86	1.35	15.01	4.15
3	10	8.40	7.02	0.73	17.42	12.45
3	11	26.17	27.64	0.08	43.36	10.30
3	12	69.46	24.54	0.67	7.04	7.18
3	13	20.82	51.88	0.20	1.39	4.76
3	14	21.91	40.51	0.51	9.71	0.97
3	15	11.76	29.46	0.08	10.74	2.39
3	16	10.22	5.13	0.46	7.71	3.37
3	17	7.67	21.60	0.03	3.68	1.32
3	18	5.87	3.19	0.27	34.91	8.23
3	19	13.55	5.83	1.74	7.70	2.68
3	20	6.95	7.52	0.50	4.35	4.02
3	21	2.67	3.96	0.31	2.48	0.88
3	32	1.57	6.57	0.64	5.46	1.21
3	23	2.83	3.51	1.35	1.45	1.23
3	24	7.60	6.74	3.99	0.62	1.48
3	25	2.33	2.65	0.10	2.05	2.66
3	26	2.42	5.09	0.78	0.75	1.20

3	27	4.39	5.82	0.86	0.95	1.14
3	28	4.70	8.63	0.60	2.35	0.68
3	29	3.40	0.66	1.24	0.56	1.01
3	30	6.47	5.19	0.38	1.10	0.52
4	0	95.81	231.43	19.48	262.58	273.03
4	1	19.25	96.96	603.72	26.27	159.10
4	2	623.83	353.89	146.37	295.71	271.22
4	3	582.73	450.62	518.74	335.50	255.87
4	4	90.73	57.76	27.47	157.02	162.03
4	5	24.62	265.95	50.86	174.63	176.56
4	6	30.35	374.15	32.22	60.11	508.69
4	7	15.95	146.35	34.22	406.49	133.24
4	8	42.40	51.94	52.60	385.50	96.51
4	9	72.85	94.88	15.68	43.32	128.37
4	10	44.07	56.78	6.33	200.25	113.42
4	11	85.29	35.81	2.33	16.48	149.63
4	12	39.98	173.11	10.58	51.05	128.26
4	13	25.85	191.81	6.15	54.60	168.71
4	14	38.82	249.42	3.33	49.23	201.26
4	15	35.95	24.18	1.83	407.57	280.08
4	16	65.02	11.01	6.13	96.49	106.06
4	17	46.86	142.01	3.13	18.49	11.62
4	18	50.81	13.21	12.88	65.67	81.90
4	19	46.70	67.27	50.07	128.67	99.49
4	20	50.80	25.26	12.31	46.24	95.03
4	21	38.67	84.81	11.69	11.41	10.18
4	42	10.67	112.24	1.88	22.82	10.43
4	23	25.70	66.73	43.95	133.31	124.99
4	24	14.27	39.86	135.07	51.81	30.56
4	25	3.11	47.72	1.58	48.02	37.26
4	26	13.10	41.65	29.64	8.31	42.26
4	27	14.42	44.34	12.50	46.57	61.23
4	28	14.08	36.76	20.44	78.18	30.55
4	29	12.30	10.56	40.02	72.10	95.83
4	30	29.50	68.32	13.62	16.55	18.16
5	0	95.39	144.51	20.35	79.30	177.32
5	1	579.00	109.26	514.97	9.28	59.92
5	2	381.15	318.09	406.63	497.54	189.34
5	3	319.98	328.43	216.15	487.45	294.65
5	4	123.75	250.99	42.99	303.93	161.50
5	5	197.21	110.81	16.49	335.37	19.27
5	6	46.74	394.78	4.84	38.35	70.45
5	7	35.30	186.20	13.30	228.33	90.84
5	8	96.78	119.30	24.68	204.41	228.96

5	9	172.84	94.41	6.56	16.35	94.61
5	10	102.64	61.93	2.25	125.08	69.14
5	11	117.80	52.95	3.56	26.13	51.57
5	12	71.74	175.42	6.86	44.95	83.70
5	13	41.64	209.92	2.95	18.62	67.07
5	14	40.34	248.23	1.33	37.25	112.25
5	15	57.43	168.21	2.33	186.79	156.59
5	16	79.77	69.98	4.35	24.17	469.11
5	17	39.24	132.32	4.68	14.49	132.91
5	18	57.29	29.93	7.09	33.30	140.31
5	19	53.43	80.89	26.11	36.96	226.21
5	20	63.36	46.82	6.64	14.66	260.95
5	21	44.84	31.59	4.78	3.34	49.39
5	22	11.72	56.18	0.69	11.88	5.19
5	23	30.83	66.96	23.32	57.23	61.09
5	24	32.43	34.53	95.98	40.56	107.08
5	25	3.34	14.59	6.37	19.69	19.12
5	26	22.93	40.60	6.10	9.92	15.27
5	27	17.79	36.98	0.94	25.32	55.42
5	28	12.37	25.84	5.86	34.16	21.18
5	29	13.91	6.30	1.05	26.82	62.86
5	30	23.38	39.59	6.12	12.74	41.20
6	0	103.56	66.84	7.91	35.51	105.66
6	1	566.44	319.48	388.26	603.78	392.57
6	2	363.08	280.90	361.51	37.40	515.21
6	3	341.25	231.15	65.31	382.23	285.74
6	4	98.19	440.91	52.41	115.39	399.50
6	5	48.27	206.48	37.14	154.65	131.23
6	6	46.71	247.38	30.15	34.40	212.74
6	7	28.45	106.19	47.66	40.27	43.84
6	8	64.03	148.85	13.11	29.56	50.82
6	9	138.67	57.99	8.14	36.33	57.58
6	10	88.86	26.99	4.05	36.92	51.84
6	11	89.36	48.73	2.37	11.01	36.99
6	12	85.50	106.42	6.30	17.97	29.76
6	13	38.19	58.86	5.12	12.33	10.87
6	14	46.69	93.57	2.02	10.33	25.02
6	15	45.18	242.61	2.48	37.78	25.26
6	16	81.08	93.31	3.49	37.96	46.04
6	17	73.96	167.96	2.78	15.32	7.51
6	18	36.19	23.00	3.45	11.59	37.35
6	19	61.93	168.09	19.63	23.42	47.59
6	20	65.08	63.04	8.88	19.89	39.79
6	21	55.29	49.88	8.83	1.70	5.55

6	22	13.03	99.57	0.47	1.65	2.63
6	23	46.87	68.23	21.28	19.79	36.62
6	24	25.86	16.15	69.41	12.31	15.69
6	25	1.78	34.43	5.81	7.82	18.33
6	26	15.76	42.48	13.97	5.16	1.15
6	27	12.19	34.00	5.82	23.54	23.79
6	28	12.94	21.72	8.25	9.32	11.81
6	29	21.05	4.82	18.52	12.47	34.82
6	30	41.98	45.59	7.67	5.51	10.78
7	0	245.13	207.22	44.04	150.28	126.26
7	1	344.02	380.43	46.27	584.55	482.26
7	2	85.98	113.87	51.05	359.66	250.48
7	3	272.36	315.73	51.99	100.81	308.29
7	4	61.36	127.08	10.30	226.81	289.36
7	5	211.36	124.61	513.80	190.82	171.33
7	6	34.33	147.08	413.85	85.30	360.87
7	7	67.44	70.53	579.98	129.59	60.96
7	8	196.44	219.23	172.55	140.91	93.56
7	9	364.35	58.68	71.00	126.81	123.81
7	10	147.03	59.59	48.81	27.27	28.15
7	11	272.74	194.08	11.94	44.87	57.96
7	12	198.40	61.58	58.33	37.94	92.21
7	13	117.58	59.77	5.15	13.71	73.59
7	14	115.32	79.83	3.56	5.27	70.85
7	15	132.78	288.07	2.78	51.18	70.29
7	16	204.16	105.62	1.62	129.91	99.02
7	17	169.58	278.87	6.93	4.83	13.54
7	18	29.06	3.75	21.35	40.00	63.85
7	19	154.84	256.93	21.71	102.71	107.21
7	20	160.17	66.53	14.44	52.04	59.08
7	21	118.05	95.37	32.05	4.85	7.37
7	22	9.60	142.54	10.59	7.32	3.37
7	23	92.26	58.05	11.60	36.61	62.94
7	24	54.91	41.74	13.62	17.81	28.41
7	25	6.59	61.89	29.86	40.72	37.98
7	26	34.73	2.07	41.16	6.48	23.77
7	27	5.27	15.25	7.55	36.63	58.69
7	28	21.18	67.12	16.83	30.88	22.75
7	29	31.17	14.30	14.46	21.41	62.32
7	30	93.97	57.50	12.83	8.02	15.64
8	0	241.27	189.57	101.95	200.07	170.30
8	1	13.48	560.05	15.99	54.80	505.33
8	2	8.16	261.10	39.53	44.58	269.37
8	3	6.54	240.86	16.15	69.42	103.14

8	4	5.55	223.50	362.28	246.67	423.71
8	5	20.58	191.39	74.54	32.93	85.34
8	6	6.62	222.30	94.78	33.33	303.61
8	7	267.07	104.84	288.77	158.83	88.64
8	8	206.95	83.15	89.73	133.90	62.41
8	9	95.93	37.85	494.05	276.27	194.41
8	10	25.17	37.25	517.70	132.78	91.58
8	11	185.89	96.79	56.74	15.65	72.57
8	12	143.95	24.81	19.93	33.81	47.91
8	13	523.10	107.51	27.88	23.01	71.54
8	14	56.39	88.36	16.52	73.22	95.97
8	15	203.76	94.74	68.06	243.04	162.64
8	16	122.38	44.51	36.07	512.07	66.08
8	17	344.02	140.51	31.83	42.92	22.05
8	18	73.45	16.79	102.75	138.87	106.13
8	19	179.39	124.02	18.74	306.29	210.98
8	20	214.23	27.92	82.57	208.12	135.44
8	21	112.04	69.57	79.61	13.96	3.63
8	22	32.72	88.32	6.06	8.56	1.82
8	23	65.91	66.38	51.52	120.22	100.85
8	24	34.44	30.57	17.82	95.05	62.71
8	25	4.15	43.59	88.47	82.30	56.32
8	26	28.44	14.52	10.87	4.85	21.44
8	27	29.52	21.83	2.20	48.65	52.49
8	28	33.97	60.12	21.89	42.47	24.11
8	29	13.01	12.83	38.28	60.81	55.81
8	30	76.14	62.12	30.67	46.74	28.53
9	0	30.64	56.27	9.92	225.91	190.05
9	1	80.12	338.80	41.21	246.34	169.38
9	2	109.58	292.89	33.07	170.46	102.09
9	3	137.69	274.17	8.68	224.23	599.72
9	4	3.75	306.93	507.66	516.28	349.11
9	5	22.42	211.14	113.85	124.17	76.37
9	6	1.92	297.38	108.46	138.54	154.22
9	7	8.34	188.89	370.69	260.13	117.96
9	8	24.57	52.48	104.35	343.70	170.88
9	9	54.79	69.31	414.77	153.73	111.67
9	10	24.13	50.29	384.12	110.10	100.73
9	11	22.61	98.78	30.15	28.21	137.44
9	12	37.08	119.07	34.56	67.23	117.04
9	13	17.62	108.84	26.43	17.97	164.54
9	14	10.59	87.95	16.65	28.90	225.42
9	15	28.20	59.39	10.95	197.37	229.99
9	16	18.73	31.28	42.91	197.87	52.25

9	17	32.51	122.77	55.09	28.39	22.83
9	18	3.94	22.63	23.98	61.43	153.87
9	19	18.95	53.88	19.44	132.78	148.98
9	20	21.30	16.37	13.74	86.08	116.60
9	21	15.50	43.85	38.96	5.82	11.61
9	22	2.85	48.84	7.04	13.12	8.19
9	23	18.83	57.78	22.88	127.60	201.76
9	24	12.76	43.17	22.85	50.82	109.09
9	25	0.52	38.84	26.63	36.75	67.85
9	26	4.59	30.28	27.35	12.82	58.59
9	27	2.04	29.50	3.76	66.86	99.73
9	28	6.12	29.22	16.90	59.61	29.28
9	29	5.62	8.12	6.44	63.69	67.67
9	30	13.40	25.22	4.61	19.09	60.86
10	0	173.77	117.58	261.98	83.70	80.49
10	1	32.90	118.95	4.30	317.46	384.26
10	2	13.90	66.90	3.47	86.94	373.84
10	3	31.74	85.05	4.45	206.41	325.44
10	4	2.80	165.36	37.49	109.36	29.24
10	5	257.35	59.39	45.36	18.28	31.09
10	6	38.64	162.71	45.79	42.36	215.51
10	7	264.72	253.04	23.67	80.56	43.37
10	8	100.77	233.60	5.78	35.57	24.63
10	9	264.19	266.04	71.17	36.05	69.40
10	10	90.26	23.32	75.77	71.31	45.36
10	11	256.10	155.14	335.72	31.39	69.52
10	12	416.38	260.90	1.87	48.19	53.21
10	13	65.81	196.95	86.70	14.53	39.66
10	14	117.58	121.90	69.42	10.81	13.32
10	15	64.08	239.82	571.83	71.61	30.18
10	16	47.68	51.04	39.37	26.82	25.50
10	17	145.27	201.52	131.72	9.67	12.94
10	18	40.22	24.36	235.45	12.93	45.09
10	19	169.98	107.56	71.63	36.67	35.25
10	20	149.85	65.73	431.73	8.30	32.04
10	21	76.58	97.09	172.61	3.70	2.55
10	22	23.78	145.82	27.48	7.17	3.77
10	23	151.28	28.49	22.39	36.89	31.01
10	24	159.91	124.98	8.80	17.00	32.39
10	25	7.59	60.58	92.09	31.89	26.07
10	26	63.51	23.94	9.58	4.89	13.39
10	27	47.12	54.61	4.28	24.03	17.36
10	28	43.99	109.14	19.05	4.50	14.40
10	29	10.83	13.68	46.04	12.26	37.52

10	30	176.31	131.21	23.44	9.34	7.33
11	0	237.87	145.50	50.75	184.13	189.88
11	1	93.97	225.12	33.60	113.91	68.04
11	2	66.46	122.92	30.56	63.98	50.93
11	3	39.11	172.70	27.26	170.54	306.57
11	4	6.78	287.62	575.06	475.55	86.00
11	5	585.32	86.70	424.85	18.50	18.90
11	6	36.16	172.36	271.49	50.13	100.97
11	7	123.65	163.93	108.69	376.44	280.02
11	8	192.44	110.18	47.05	150.20	263.81
11	9	391.13	63.41	54.79	173.67	150.55
11	10	207.99	4.62	150.88	375.32	282.30
11	11	307.21	131.42	6.58	174.38	252.82
11	12	103.43	89.00	49.14	242.68	126.32
11	13	86.62	147.27	18.52	29.24	111.59
11	14	100.11	120.16	7.19	40.09	28.38
11	15	120.25	115.02	9.05	217.91	91.93
11	16	147.52	69.00	16.39	45.48	236.72
11	17	132.97	99.06	67.73	14.64	66.48
11	18	42.37	9.99	19.63	62.52	179.96
11	19	144.97	45.08	12.14	47.97	110.11
11	20	76.16	58.58	44.96	46.06	177.06
11	21	74.13	46.54	47.73	4.79	16.14
11	22	15.95	69.75	5.22	29.00	15.78
11	23	96.53	61.63	55.79	123.70	157.61
11	24	44.64	68.38	15.31	37.44	150.60
11	25	3.81	47.21	34.78	118.28	108.46
11	26	46.25	19.08	30.90	8.36	27.69
11	27	24.14	34.95	7.15	56.71	38.72
11	28	37.56	22.23	10.87	13.65	62.86
11	29	52.91	7.23	15.24	25.07	217.80
11	30	73.46	88.19	10.48	31.30	41.07
12	0	110.28	177.18	29.97	154.54	277.38
12	1	8.32	127.57	41.98	50.52	27.43
12	2	18.97	63.48	33.59	42.73	25.75
12	3	12.62	340.72	32.63	148.45	80.02
12	4	2.28	558.20	58.46	390.53	139.37
12	5	295.10	140.71	102.97	65.56	32.96
12	6	35.67	89.50	129.43	16.28	70.70
12	7	272.86	39.56	41.36	212.83	75.15
12	8	292.76	87.21	11.41	421.50	541.55
12	9	119.78	38.90	35.63	88.71	218.88
12	10	247.83	60.01	121.05	372.80	213.90
12	11	342.84	158.21	7.21	194.61	141.12

12	12	480.96	143.54	6.47	310.76	62.38
12	13	124.15	289.40	25.25	62.48	87.78
12	14	122.62	275.69	3.73	71.06	99.12
12	15	65.23	88.35	8.90	351.47	232.63
12	16	152.56	52.08	11.46	41.94	422.47
12	17	125.92	77.21	42.17	15.79	132.16
12	18	47.68	21.38	37.11	43.44	94.16
12	19	85.03	53.98	5.88	73.47	264.07
12	20	181.70	51.96	35.08	44.73	188.30
12	21	72.99	46.02	31.82	16.10	23.92
12	22	56.83	34.13	0.94	14.64	10.23
12	23	156.63	97.82	43.70	111.30	169.11
12	24	97.22	35.49	11.60	45.65	177.71
12	25	20.18	51.16	29.37	85.33	63.31
12	26	44.86	16.54	6.17	27.36	28.35
12	27	40.65	26.32	2.82	87.60	68.22
12	28	50.18	57.93	7.88	33.93	34.46
12	29	18.40	14.54	9.33	41.27	126.15
12	30	94.80	89.06	1.12	13.41	26.35
13	0	297.77	80.78	260.59	254.09	178.78
13	1	6.27	94.85	9.45	18.29	48.83
13	2	3.41	76.88	12.77	3.32	18.11
13	3	14.76	51.22	8.08	50.83	98.71
13	4	2.15	122.21	121.62	135.38	46.43
13	5	159.38	39.92	105.52	18.92	11.86
13	6	2.56	182.57	134.82	186.31	93.54
13	7	481.06	137.04	23.59	83.34	48.14
13	8	430.43	216.16	9.08	31.33	24.90
13	9	148.77	456.85	59.92	568.43	309.41
13	10	110.60	79.46	143.45	168.09	84.27
13	11	65.54	143.26	71.66	120.47	108.22
13	12	155.98	371.01	5.15	54.73	46.29
13	13	505.89	406.16	258.93	16.54	39.72
13	14	36.51	104.66	9.99	35.69	30.50
13	15	115.64	148.33	27.90	85.81	73.06
13	16	86.43	178.55	30.85	463.74	108.48
13	17	156.16	138.09	154.02	45.68	20.58
13	18	62.12	43.06	466.21	78.55	55.20
13	19	191.15	30.58	62.63	277.71	186.91
13	20	172.55	97.06	296.87	167.48	103.25
13	21	87.61	28.46	283.22	19.26	7.59
13	22	22.05	73.25	4.02	11.55	1.82
13	23	87.31	92.29	269.14	234.05	157.24
13	24	75.28	67.67	69.74	54.77	34.36

13	25	1.91	47.99	191.66	26.62	16.08
13	26	44.34	25.78	11.00	15.94	10.32
13	27	26.22	34.66	18.13	64.17	35.96
13	28	27.39	49.11	73.98	9.64	16.77
13	29	34.49	4.23	44.96	74.75	64.31
13	30	105.16	81.99	17.19	51.60	31.73
14	0	18.21	321.26	103.80	71.19	57.11
14	1	12.71	19.87	27.57	13.07	43.32
14	2	29.21	22.67	15.15	18.67	36.81
14	3	31.33	107.78	8.34	23.06	75.40
14	4	2.61	162.96	267.67	46.27	14.29
14	5	26.20	35.16	332.37	39.21	34.01
14	6	4.46	75.86	442.81	568.62	260.10
14	7	46.51	53.47	123.59	30.48	196.66
14	8	28.64	495.01	29.05	49.70	191.24
14	9	8.74	141.08	71.03	161.40	518.02
14	10	24.40	131.04	384.60	293.05	158.59
14	11	22.46	385.29	55.40	127.17	342.08
14	12	43.22	30.19	13.54	130.30	90.57
14	13	7.34	78.17	77.31	43.61	167.07
14	14	49.65	24.76	15.93	51.63	142.32
14	15	71.54	365.77	37.39	231.17	266.21
14	16	37.61	153.44	33.01	115.15	80.44
14	17	66.58	230.50	52.27	4.41	20.91
14	18	19.55	12.85	197.58	26.09	68.20
14	19	21.39	313.77	25.32	45.66	79.93
14	20	42.91	88.33	90.07	51.83	91.45
14	21	14.59	149.86	156.16	9.10	21.57
14	22	7.03	211.74	6.26	10.04	10.00
14	23	25.34	87.85	74.66	28.93	34.57
14	24	14.01	58.41	23.72	14.48	77.65
14	25	3.27	71.25	90.00	44.49	40.24
14	26	5.70	21.49	15.84	19.68	22.54
14	27	6.81	34.21	5.08	29.13	18.61
14	28	8.32	117.52	14.87	5.96	17.55
14	29	4.54	17.80	21.30	20.82	63.78
14	30	19.20	93.35	26.23	21.04	10.65
15	0	220.40	68.88	66.53	283.81	105.15
15	1	24.18	68.32	12.35	15.61	31.67
15	2	6.53	49.96	7.87	13.34	20.54
15	3	37.33	71.67	5.23	66.65	64.27
15	4	15.87	57.46	34.38	180.57	74.44
15	5	603.22	26.53	397.90	20.33	9.96
15	6	18.87	133.53	505.81	46.71	65.26

15	7	209.23	78.66	70.02	63.33	543.09
15	8	318.91	91.05	36.99	31.59	71.10
15	9	30.96	105.94	482.58	216.21	207.69
15	10	115.25	97.57	95.06	58.78	106.83
15	11	57.89	132.02	23.66	24.85	256.85
15	12	197.40	278.72	7.70	14.32	120.13
15	13	59.79	278.78	12.39	37.24	114.85
15	14	102.64	395.68	22.12	198.38	175.40
15	15	131.01	305.21	75.72	119.84	229.93
15	16	234.60	272.13	48.52	121.28	102.61
15	17	184.70	383.24	52.30	28.79	25.09
15	18	28.98	41.33	40.83	250.59	208.77
15	19	232.18	62.67	7.83	135.73	92.83
15	20	187.66	148.60	79.44	259.52	132.26
15	21	153.66	71.92	48.76	10.56	11.65
15	22	15.59	107.35	4.02	70.93	32.45
15	23	103.23	42.60	28.37	276.54	161.67
15	24	91.90	10.49	10.01	178.12	158.45
15	25	2.89	106.19	43.11	371.01	263.57
15	26	16.36	15.89	9.31	53.91	33.57
15	27	38.23	15.47	2.67	78.41	34.81
15	28	52.03	112.76	9.34	25.78	40.23
15	29	58.08	9.80	19.57	285.58	139.46
15	30	84.38	93.46	22.67	134.95	23.82
16	0	216.46	85.99	196.01	71.15	92.42
16	1	7.05	7.95	5.32	9.64	41.44
16	2	8.12	10.38	2.80	22.48	33.75
16	3	12.25	29.15	3.41	57.29	52.93
16	4	5.78	39.47	9.31	79.73	55.00
16	5	42.77	79.99	46.60	28.85	18.95
16	6	23.64	166.70	75.97	401.83	232.49
16	7	534.42	406.21	10.55	178.12	149.76
16	8	305.44	211.34	5.20	183.24	103.48
16	9	77.65	152.91	56.35	24.79	127.43
16	10	65.35	18.36	30.86	7.88	325.16
16	11	119.11	152.26	657.02	50.16	258.69
16	12	66.53	240.01	9.85	157.85	385.21
16	13	334.83	204.39	155.36	55.46	124.35
16	14	73.17	86.64	61.55	420.25	152.73
16	15	260.63	208.28	522.69	126.44	124.60
16	16	114.74	202.45	28.59	78.29	133.77
16	17	331.73	162.59	105.13	46.52	52.84
16	18	53.97	12.39	147.88	431.79	465.36
16	19	114.34	96.48	36.60	112.46	106.93

16	20	201.46	38.97	257.45	125.10	167.00
16	21	124.60	48.45	72.92	62.55	10.43
16	22	32.40	57.51	8.41	121.38	6.30
16	23	43.67	52.65	54.66	66.20	94.59
16	24	38.96	48.16	9.93	73.91	124.38
16	25	3.83	34.82	45.48	123.45	95.28
16	26	61.96	14.02	7.49	22.61	55.55
16	27	49.52	22.72	4.61	17.34	42.89
16	28	38.79	39.53	24.76	23.73	21.08
16	29	32.71	6.28	85.20	58.22	47.40
16	30	67.45	36.95	56.43	27.40	12.49
17	0	105.93	237.56	277.65	33.33	232.81
17	1	24.60	12.86	13.35	26.38	13.57
17	2	30.16	11.68	7.40	30.42	13.06
17	3	19.51	24.38	2.25	61.61	48.26
17	4	8.72	40.93	53.12	70.43	50.61
17	5	28.45	37.98	112.44	32.54	6.94
17	6	7.40	87.03	172.16	456.86	271.50
17	7	117.95	270.06	47.73	191.52	202.45
17	8	117.70	431.29	17.98	198.20	524.13
17	9	48.32	178.68	100.70	118.67	172.75
17	10	16.76	82.07	155.29	23.69	100.37
17	11	191.20	274.60	216.07	38.29	54.77
17	12	115.68	91.45	12.64	184.50	92.97
17	13	68.60	148.68	82.93	50.34	37.25
17	14	233.31	180.66	14.04	361.62	108.61
17	15	486.36	215.85	96.57	76.01	94.91
17	16	370.15	161.75	37.85	79.35	245.70
17	17	347.54	287.28	245.75	40.71	63.80
17	18	136.75	16.01	159.25	374.53	292.57
17	19	118.52	261.16	26.36	137.00	256.62
17	20	197.65	135.33	194.73	121.46	285.45
17	21	51.42	113.11	374.81	57.38	49.39
17	22	19.87	222.51	29.58	104.86	10.75
17	23	105.59	59.25	370.48	38.01	57.40
17	24	70.34	58.13	76.65	26.72	167.85
17	25	6.28	70.70	402.16	99.68	56.29
17	26	1.99	24.99	43.31	15.15	16.62
17	27	33.60	24.57	10.64	21.34	64.02
17	28	59.52	101.76	64.98	23.71	14.85
17	29	26.35	12.97	88.38	53.47	31.90
17	30	81.56	27.62	79.50	18.47	43.16
18	0	211.72	159.25	245.16	69.20	175.38
18	1	3.30	11.94	4.74	26.52	41.52

18	2	9.23	28.46	6.91	11.89	8.13
18	3	15.26	73.12	6.89	40.08	56.54
18	4	15.74	16.86	8.68	59.62	28.33
18	5	188.69	96.92	8.44	20.46	26.90
18	6	60.70	196.68	34.44	358.55	37.12
18	7	292.25	458.63	19.22	86.37	158.05
18	8	468.23	304.32	6.85	102.38	162.42
18	9	356.94	381.82	45.15	88.94	136.14
18	10	207.33	97.96	52.48	185.44	375.16
18	11	309.30	202.78	595.56	168.75	112.69
18	12	103.86	71.64	2.10	1.68	324.45
18	13	98.30	29.66	193.00	16.60	135.89
18	14	69.13	93.22	41.09	34.14	47.86
18	15	31.11	152.89	304.63	54.06	81.48
18	16	102.54	214.84	32.34	37.61	125.35
18	17	74.94	175.22	128.13	7.53	42.17
18	18	20.11	20.70	295.88	104.66	276.43
18	19	71.30	138.83	59.40	81.15	101.35
18	20	106.92	29.92	318.46	44.40	173.47
18	21	25.83	22.32	235.92	11.92	19.96
18	22	56.16	19.19	21.20	8.19	10.36
18	23	108.74	68.68	20.76	57.12	205.62
18	24	50.84	24.26	9.84	24.73	196.86
18	25	19.85	33.13	137.69	41.53	52.59
18	26	42.86	26.95	17.38	8.44	63.84
18	27	15.67	24.26	5.39	34.00	33.48
18	28	40.26	23.69	25.96	1.76	61.77
18	29	17.31	7.04	50.63	32.89	189.06
18	30	112.24	56.77	36.08	16.50	48.60
19	0	116.62	145.99	284.77	255.45	78.64
19	1	28.80	7.79	4.85	9.31	17.48
19	2	9.23	14.43	10.17	7.49	24.07
19	3	14.80	29.95	6.90	12.23	37.78
19	4	22.41	51.42	15.03	18.56	26.71
19	5	55.43	18.48	18.39	10.12	28.24
19	6	49.06	145.80	16.99	96.89	96.51
19	7	202.11	114.37	7.88	39.32	422.41
19	8	204.12	304.62	3.76	50.19	176.02
19	9	340.22	59.37	19.42	606.14	386.65
19	10	177.35	88.15	26.68	154.05	270.11
19	11	126.05	513.50	276.40	86.11	89.82
19	12	239.60	260.43	18.53	31.44	59.86
19	13	17.65	147.20	617.79	16.00	46.78
19	14	102.47	260.60	11.46	57.58	56.62

19	15	194.85	31.76	138.04	205.37	79.76
19	16	209.58	207.81	20.74	292.15	51.60
19	17	166.67	82.25	142.54	24.54	26.93
19	18	82.26	39.07	406.78	174.17	168.60
19	19	186.72	106.14	39.77	279.74	86.20
19	20	164.11	147.15	366.57	207.70	47.37
19	21	142.86	93.64	205.44	25.70	13.56
19	22	57.91	62.83	10.52	25.25	5.72
19	23	275.92	15.24	135.74	142.47	121.52
19	24	271.79	93.18	41.01	83.11	86.29
19	25	13.90	144.62	126.19	165.22	64.79
19	26	59.84	19.07	13.55	33.04	28.18
19	27	25.85	22.17	9.53	122.74	61.33
19	28	22.96	50.09	47.57	13.84	29.20
19	29	11.42	12.91	43.19	32.91	92.60
19	30	179.97	109.92	61.05	66.82	31.36
20	0	131.24	47.02	22.54	80.56	10.46
20	1	8.81	25.28	5.77	9.44	12.26
20	2	2.56	4.79	4.05	5.54	14.47
20	3	9.90	13.66	4.67	10.82	5.70
20	4	11.14	18.69	48.68	11.67	8.80
20	5	39.46	31.59	38.60	12.80	3.31
20	6	24.61	49.04	44.25	67.10	6.55
20	7	9.15	165.67	37.49	48.05	40.08
20	8	75.94	81.69	9.50	39.23	9.01
20	9	49.26	77.31	28.50	103.32	63.50
20	10	332.59	25.07	33.63	216.60	75.91
20	11	214.49	60.90	9.99	543.53	146.23
20	12	83.65	116.34	0.83	39.42	24.01
20	13	59.19	126.42	31.76	12.34	6.74
20	14	178.09	71.10	0.69	47.10	10.80
20	15	225.73	47.97	4.65	138.69	41.09
20	16	86.74	12.10	2.21	56.15	26.30
20	17	199.06	43.96	12.05	36.51	15.94
20	18	32.64	7.12	19.82	413.09	167.24
20	19	120.57	66.03	1.24	134.28	33.73
20	20	98.91	22.04	22.61	130.64	16.47
20	21	81.26	29.33	12.20	21.81	7.85
20	22	29.78	56.19	1.14	33.69	21.34
20	23	338.03	68.71	25.33	185.53	42.21
20	24	309.57	55.19	7.06	31.59	19.20
20	25	9.36	45.85	22.14	167.69	91.27
20	26	95.65	15.35	1.66	37.89	16.09
20	27	20.96	23.57	0.93	86.10	24.21

20	28	26.38	52.62	6.19	11.40	2.34
20	29	32.26	6.91	3.28	84.24	6.67
20	30	173.93	41.29	5.02	44.00	5.72
21	0	87.62	123.36	184.04	117.25	254.63
21	1	16.20	26.61	6.95	7.39	22.69
21	2	14.27	11.79	6.19	3.60	16.74
21	3	18.57	33.33	4.51	13.97	35.74
21	4	16.19	35.83	11.38	61.03	29.38
21	5	63.30	38.43	37.06	8.30	8.21
21	6	29.48	43.20	39.53	13.92	41.81
21	7	37.13	158.11	7.45	48.93	20.45
21	8	82.13	103.05	2.36	28.16	88.85
21	9	67.15	55.55	29.94	128.46	29.41
21	10	427.04	16.81	30.19	45.89	146.05
21	11	147.40	91.22	44.28	174.11	95.67
21	12	57.98	135.30	7.56	22.44	20.48
21	13	23.76	107.26	113.65	6.34	41.40
21	14	272.40	100.94	4.47	72.09	59.04
21	15	227.60	96.67	41.06	31.56	48.41
21	16	290.72	1.04	82.98	93.92	79.07
21	17	177.16	64.17	592.61	13.02	11.48
21	18	115.50	4.94	210.58	139.04	96.70
21	19	122.79	158.81	40.91	207.79	457.15
21	20	123.21	23.94	115.98	494.79	167.25
21	21	48.29	12.65	354.61	62.18	33.29
21	22	25.50	57.57	28.41	80.22	12.07
21	23	189.61	318.03	387.84	243.08	271.12
21	24	193.98	218.23	82.51	116.13	394.13
21	25	18.91	184.14	316.21	473.46	284.71
21	26	72.66	30.49	32.90	111.62	205.02
21	27	43.00	27.85	13.76	287.23	220.00
21	28	48.45	110.85	71.44	30.16	60.46
21	29	24.54	11.21	47.66	171.46	203.13
21	30	93.10	97.71	66.13	90.12	71.79
22	0	183.89	134.41	208.35	201.50	65.81
22	1	3.71	13.44	9.21	10.26	28.59
22	2	4.66	3.81	8.20	12.86	13.24
22	3	8.57	29.20	5.09	22.36	88.88
22	4	4.61	70.07	10.87	107.39	34.96
22	5	71.00	13.25	13.38	18.07	23.10
22	6	18.35	52.70	13.49	19.87	80.80
22	7	104.64	127.14	10.46	65.78	16.80
22	8	49.62	55.78	5.30	14.65	59.41
22	9	87.37	126.17	17.24	47.67	21.39

22	10	257.42	51.00	9.48	50.29	59.50
22	11	126.45	213.53	105.70	32.36	52.58
22	12	34.92	167.35	14.57	14.97	40.77
22	13	20.97	181.68	732.20	6.71	7.18
22	14	149.26	52.54	18.68	30.58	33.30
22	15	38.34	72.12	36.27	78.28	59.98
22	16	101.59	37.80	33.87	50.18	45.56
22	17	158.16	118.67	149.76	9.31	11.57
22	18	39.58	23.97	131.15	86.44	57.57
22	19	427.34	117.85	64.17	216.69	161.75
22	20	180.97	52.16	198.59	134.89	261.92
22	21	196.32	129.90	213.17	30.33	55.49
22	22	24.88	138.93	9.54	35.89	9.38
22	23	328.27	443.74	273.31	97.73	236.87
22	24	368.33	405.53	65.79	608.55	331.40
22	25	33.19	218.39	266.91	263.61	418.19
22	26	193.59	28.31	5.54	132.20	281.23
22	27	69.42	40.97	16.07	491.56	468.85
22	28	59.84	106.32	67.02	35.37	37.91
22	29	35.87	5.49	29.63	217.48	135.91
22	30	130.45	204.50	62.47	78.43	74.16
23	0	55.07	176.32	1.25	50.27	53.91
23	1	10.05	7.33	2.33	2.01	9.46
23	2	12.27	6.34	2.61	4.98	19.11
23	3	15.19	44.71	2.41	4.62	12.38
23	4	13.69	67.82	1.43	43.53	35.27
23	5	20.73	16.67	1.01	8.42	18.40
23	6	28.64	17.36	1.29	18.15	33.08
23	7	28.71	12.36	1.33	35.53	31.62
23	8	75.88	155.14	0.86	21.11	21.20
23	9	114.48	40.51	0.88	152.97	98.67
23	10	382.69	38.33	0.59	218.86	356.48
23	11	145.31	281.49	0.08	564.31	348.64
23	12	55.78	172.33	0.58	77.74	257.70
23	13	47.94	97.76	0.33	60.32	98.56
23	14	234.77	124.54	0.49	430.64	156.60
23	15	330.29	140.92	0.11	81.59	67.64
23	16	85.67	54.34	0.25	45.47	22.82
23	17	133.38	188.44	0.58	24.04	13.22
23	18	41.37	26.61	0.30	18.77	43.81
23	19	78.48	302.62	0.41	55.51	57.87
23	20	52.90	76.64	0.19	63.85	72.61
23	21	52.50	194.76	0.35	56.28	24.09
23	22	9.76	290.17	0.64	123.96	54.26

23	23	88.93	233.97	0.53	74.85	81.38
23	24	31.28	287.37	0.43	37.43	53.56
23	25	6.00	179.44	0.47	34.59	52.21
23	26	30.01	21.42	0.53	23.20	48.70
23	27	35.93	81.43	0.75	20.99	37.06
23	28	12.31	65.40	0.49	25.35	16.58
23	29	6.18	11.16	0.29	50.24	34.84
23	30	42.20	117.54	0.35	24.03	13.47
24	0	94.43	106.10	223.84	23.06	55.39
24	1	1.70	21.62	4.88	4.32	11.02
24	2	2.96	10.99	5.52	6.65	12.60
24	3	6.86	23.05	4.23	11.43	32.58
24	4	0.71	43.77	8.71	14.98	21.02
24	5	47.84	23.90	14.68	2.02	16.70
24	6	4.64	72.98	28.69	19.83	41.78
24	7	94.46	89.93	11.84	14.11	81.44
24	8	54.97	40.23	4.29	13.14	33.57
24	9	67.57	43.58	42.10	47.14	74.77
24	10	31.92	28.21	2.14	55.77	351.53
24	11	52.05	115.16	76.22	194.61	188.95
24	12	33.70	24.97	11.40	30.04	243.78
24	13	37.54	30.78	113.06	19.18	97.73
24	14	38.43	59.36	5.86	142.93	51.02
24	15	31.33	45.75	39.17	26.38	38.96
24	16	28.43	43.06	81.68	16.30	39.25
24	17	76.61	127.17	510.30	8.18	12.61
24	18	56.30	23.32	216.27	8.50	23.24
24	19	438.84	438.06	8.36	23.35	44.19
24	20	215.13	61.88	112.66	22.33	52.22
24	21	224.44	207.79	129.45	18.65	18.11
24	22	38.55	287.27	9.81	40.62	18.50
24	23	308.49	385.24	159.28	21.74	74.31
24	24	114.33	146.79	26.04	27.61	35.41
24	25	35.01	176.18	300.96	14.76	84.36
24	26	362.03	12.21	28.02	6.02	63.01
24	27	211.56	26.98	37.17	14.93	95.96
24	28	182.42	177.30	145.38	8.55	22.95
24	29	34.98	20.75	312.77	21.76	69.40
24	30	120.75	32.62	330.43	9.37	21.81
25	0	83.48	61.55	43.55	2.58	115.23
25	1	14.54	15.33	11.98	7.57	24.19
25	2	20.14	19.92	33.42	8.60	15.41
25	3	11.91	49.87	26.22	9.34	43.57
25	4	6.68	42.81	5.86	4.67	4.20

25	5	96.21	22.99	9.15	7.11	18.05
25	6	1.01	91.47	16.43	9.34	63.60
25	7	45.08	43.07	8.71	11.50	22.87
25	8	76.67	36.92	1.85	5.84	70.19
25	9	104.18	34.22	17.42	5.34	29.83
25	10	30.46	17.23	6.39	13.90	14.66
25	11	55.04	19.93	54.59	8.91	25.60
25	12	40.93	54.54	5.04	8.64	39.75
25	13	34.94	51.53	95.19	1.00	42.02
25	14	8.64	105.36	11.46	5.36	60.07
25	15	39.51	51.08	32.44	3.08	71.71
25	16	3.40	44.66	54.29	1.69	16.29
25	17	28.83	29.12	329.51	1.16	19.43
25	18	21.55	5.15	102.70	7.24	143.53
25	19	250.46	155.67	15.98	6.61	334.52
25	20	44.60	52.86	90.48	3.30	51.81
25	21	50.23	96.54	73.58	2.11	27.00
25	22	26.70	170.50	13.28	1.34	10.92
25	23	110.51	126.18	94.85	8.18	300.65
25	24	211.18	218.22	37.02	7.37	284.27
25	25	42.87	504.81	190.33	5.76	226.42
25	26	489.95	71.77	53.39	2.55	200.32
25	27	357.24	248.49	63.80	7.97	109.75
25	28	341.59	462.80	284.28	1.04	32.01
25	29	80.23	47.60	489.71	2.89	115.24
25	30	182.84	258.49	388.56	2.08	87.80
26	0	155.25	5.21	55.80	136.76	93.06
26	1	6.00	22.29	46.85	19.65	11.26
26	2	5.66	5.38	80.19	10.19	0.65
26	3	7.32	14.03	51.64	9.68	0.75
26	4	2.44	15.56	36.90	32.25	14.03
26	5	42.53	10.17	28.86	7.45	2.30
26	6	4.02	10.87	32.17	43.28	26.74
26	7	22.69	22.43	35.47	31.12	7.71
26	8	52.52	5.52	7.09	37.64	14.99
26	9	66.29	7.96	21.02	88.96	53.12
26	10	43.25	4.17	11.60	31.30	20.13
26	11	69.03	8.50	31.40	22.90	3.51
26	12	35.34	11.20	3.46	17.53	3.11
26	13	78.04	18.15	26.89	7.75	4.30
26	14	13.37	10.87	3.96	12.63	5.64
26	15	54.56	7.49	23.76	95.22	60.68
26	16	59.29	17.07	16.49	32.07	3.64
26	17	83.16	5.60	99.23	13.76	9.56

26	18	36.58	0.92	45.40	63.24	41.95
26	19	171.74	5.58	4.29	444.17	302.97
26	20	258.20	4.04	21.43	182.74	35.59
26	21	201.02	6.50	45.03	56.91	28.42
26	22	45.10	11.64	5.14	30.51	14.04
26	23	349.30	14.19	39.05	355.59	175.66
26	24	255.27	6.72	9.71	278.45	107.43
26	25	26.99	12.07	80.71	176.67	94.06
26	26	311.37	3.36	3.66	80.23	34.43
26	27	201.03	7.74	13.94	253.90	108.82
26	28	192.76	14.85	59.02	10.23	5.37
26	29	44.93	1.60	140.45	82.65	21.03
26	30	255.10	10.28	118.84	95.50	55.46
27	0	134.14	61.33	84.42	108.85	172.82
27	1	4.83	10.32	27.01	7.09	7.81
27	2	11.25	9.12	104.03	1.47	13.63
27	3	11.57	16.62	80.74	11.87	20.02
27	4	1.43	10.43	34.84	42.08	17.96
27	5	38.84	13.21	18.81	5.97	12.51
27	6	3.01	27.75	22.58	14.10	31.57
27	7	85.22	28.51	10.72	40.30	8.53
27	8	40.50	68.54	8.05	27.93	21.72
27	9	28.38	25.24	18.24	53.37	37.42
27	10	15.06	15.72	4.77	11.98	26.25
27	11	56.85	44.56	46.29	39.53	87.12
27	12	16.82	64.66	2.74	13.98	23.22
27	13	77.32	57.63	37.12	7.48	66.06
27	14	11.63	119.62	5.67	10.25	107.51
27	15	34.83	43.78	34.33	152.17	122.84
27	16	27.67	14.97	22.97	42.64	55.88
27	17	27.69	119.93	140.05	13.15	11.80
27	18	14.96	13.82	65.70	60.93	89.34
27	19	276.27	314.44	3.33	348.18	171.60
27	20	106.69	41.49	27.76	253.99	345.08
27	21	64.63	120.12	72.36	78.31	70.11
27	22	24.12	155.74	7.89	50.22	23.65
27	23	243.27	320.40	66.70	392.48	349.14
27	24	403.39	400.49	12.84	287.99	253.58
27	25	35.86	260.98	117.71	214.59	267.31
27	26	212.21	60.76	2.96	96.63	191.29
27	27	250.33	121.04	18.00	354.46	384.18
27	28	235.01	356.03	77.61	36.87	81.18
27	29	97.49	36.47	193.26	91.35	237.16
27	30	294.85	140.10	157.34	140.95	131.92

28	0	8.90	144.60	180.99	210.55	121.35
28	1	12.90	2.63	21.49	12.74	8.61
28	2	21.02	5.66	69.50	6.80	7.34
28	3	25.19	30.07	49.35	12.01	14.09
28	4	3.70	22.68	9.82	29.38	19.55
28	5	9.26	8.37	15.37	3.98	8.10
28	6	6.71	5.45	15.69	18.10	21.62
28	7	18.61	31.75	7.01	15.72	7.02
28	8	20.83	111.57	4.00	15.12	4.98
28	9	49.12	36.62	21.73	28.75	23.60
28	10	44.34	8.89	4.00	9.21	37.16
28	11	22.74	24.03	100.55	46.82	61.15
28	12	33.51	41.48	4.86	8.26	64.93
28	13	10.64	31.73	53.34	12.00	41.57
28	14	38.08	105.83	9.42	50.00	65.86
28	15	47.61	77.15	68.52	131.09	75.45
28	16	23.57	28.29	30.16	84.17	91.64
28	17	34.16	66.15	172.56	12.94	11.70
28	18	4.92	2.38	103.91	123.45	130.30
28	19	11.37	118.76	9.62	98.65	191.46
28	20	26.67	21.56	28.66	538.87	445.29
28	21	21.58	21.24	219.81	67.72	80.89
28	22	1.98	37.32	20.58	56.65	35.86
28	23	12.45	155.09	194.64	350.25	437.82
28	24	36.02	347.05	50.92	173.34	144.22
28	25	3.31	301.17	241.40	286.61	214.20
28	26	35.40	21.32	27.84	71.16	127.24
28	27	4.24	111.05	5.66	167.31	315.66
28	28	5.78	95.94	28.23	23.67	67.26
28	29	3.92	19.15	308.35	264.49	220.41
28	30	23.87	326.91	194.13	143.67	90.64
29	0	121.99	150.92	109.19	140.81	139.14
29	1	14.25	11.73	2.44	1.81	14.64
29	2	21.32	4.89	3.55	1.85	7.66
29	3	24.49	12.95	2.46	13.17	39.40
29	4	4.96	35.16	11.05	53.58	28.59
29	5	53.32	10.27	5.56	7.74	9.17
29	6	2.69	38.58	18.68	20.05	32.63
29	7	110.92	22.13	11.83	23.53	29.08
29	8	48.14	35.92	3.71	30.66	84.73
29	9	56.58	16.86	18.44	146.82	94.75
29	10	43.52	35.03	18.11	24.98	20.57
29	11	58.59	88.03	15.29	6.88	22.73
29	12	49.81	27.21	1.69	8.49	24.90

29	13	74.36	54.63	50.90	3.99	8.59
29	14	24.53	92.58	4.43	30.80	15.83
29	15	58.21	54.38	30.54	23.59	13.74
29	16	60.65	34.29	7.20	129.18	113.42
29	17	79.53	88.39	45.41	11.65	25.20
29	18	16.10	11.72	43.59	55.02	61.55
29	19	115.93	149.96	6.59	225.75	188.56
29	20	54.46	64.61	35.59	92.18	62.09
29	21	28.25	118.79	262.92	22.90	11.51
29	22	11.58	192.88	28.07	12.48	3.69
29	23	108.70	175.76	348.60	131.89	100.88
29	24	239.32	231.95	87.02	154.56	156.55
29	25	21.13	308.12	393.24	115.06	101.35
29	26	243.01	35.17	96.41	3.29	73.02
29	27	89.60	128.47	61.80	32.46	83.31
29	28	83.67	190.39	287.24	17.32	71.93
29	29	17.30	27.65	191.99	327.23	343.33
29	30	203.80	299.99	316.29	130.01	122.76
30	0	32.85	71.27	5.05	30.55	7.39
30	1	1.82	16.73	0.68	7.49	3.55
30	2	4.50	10.98	0.51	2.22	1.79
30	3	5.38	34.69	0.40	26.22	7.36
30	4	0.85	55.35	3.14	71.68	17.91
30	5	3.87	12.85	5.09	7.38	2.14
30	6	1.46	30.44	6.76	27.81	4.38
30	7	34.99	23.01	2.84	14.54	6.92
30	8	9.92	45.76	0.95	16.94	6.18
30	9	11.27	16.73	4.95	16.40	3.55
30	10	16.45	10.64	8.10	16.55	7.85
30	11	17.78	31.79	0.32	5.90	3.25
30	12	7.41	37.52	0.30	7.06	3.36
30	13	22.89	28.41	0.51	8.48	3.47
30	14	7.96	28.00	0.77	10.71	2.84
30	15	20.83	36.73	0.59	58.04	23.50
30	16	15.77	16.98	0.53	20.14	2.05
30	17	18.57	52.93	2.94	2.24	0.52
30	18	4.25	3.06	1.72	18.68	8.42
30	19	18.84	86.52	0.24	33.21	2.18
30	20	26.12	20.93	0.91	74.59	49.57
30	21	16.36	65.98	2.20	9.97	5.51
30	22	3.29	89.19	0.80	12.12	7.71
30	23	32.53	82.98	1.87	60.97	18.18
30	24	78.78	161.43	0.48	59.37	36.08
30	25	5.78	133.40	0.77	64.54	43.04

30	26	75.14	13.08	0.54	6.40	1.29
30	27	23.65	17.66	0.45	25.80	2.96
30	28	21.92	31.13	1.50	3.49	1.67
30	29	5.01	3.55	0.91	104.04	56.85
30	30	62.46	96.82	1.43	32.09	20.77

Table S25. The original SOC matrix elements calculated for I-Gaq_3.

States		SOC elemnets /cm^{-1}				
T_i	S_j	Conformer 1	Conformer 2	Conformer 3	Conformer 4	Conformer 5
1	0	21.15	10.06	0.51	1.92	0.38
1	1	62.95	49.58	2.38	6.01	3.44
1	2	15.37	21.43	10.85	4.51	3.09
1	3	152.32	84.70	1.62	3.93	0.45
1	4	163.51	91.64	1.35	29.01	4.04
1	5	27.09	9.35	4.42	8.68	3.07
1	6	12.00	5.70	7.37	5.51	0.13
1	7	4.82	2.30	1.47	7.00	0.36
1	8	7.58	4.00	1.03	24.91	0.08
1	9	4.71	2.57	4.57	5.24	0.82
1	10	0.57	0.34	0.71	1.56	1.08
1	11	5.09	2.07	0.93	1.84	0.62
1	12	3.63	2.34	1.68	9.32	0.13
1	13	7.37	4.16	1.49	4.06	0.73
1	14	6.61	1.87	2.30	2.66	0.38
1	15	6.01	0.80	2.05	2.11	0.43
1	16	9.25	4.90	1.45	6.25	0.27
1	17	5.22	2.79	0.29	1.11	0.39
1	18	7.99	2.14	0.32	4.81	0.27
1	19	4.14	1.69	0.41	0.43	0.23
1	20	9.09	2.96	0.53	0.42	1.04
1	21	4.76	3.24	1.00	0.74	0.51
1	22	10.06	5.10	0.33	0.78	0.12
1	23	1.91	0.68	0.15	0.85	0.09
1	24	11.62	4.03	0.12	0.59	0.05
1	25	3.47	1.02	0.12	1.37	0.14
1	26	1.53	0.55	0.04	0.40	0.03
1	27	1.39	1.15	0.03	1.10	0.10
1	28	2.22	1.00	0.07	0.31	0.05
1	29	3.10	0.47	1.06	1.02	0.43
1	30	23.95	5.97	0.25	0.30	1.43
2	0	3.73	2.81	1.21	0.40	0.42
2	1	2.87	0.73	0.53	0.68	3.70

2	2	26.31	21.45	8.20	0.60	7.17
2	3	3.67	7.14	8.75	0.60	0.57
2	4	1.36	3.04	3.05	3.15	1.11
2	5	17.40	27.51	1.26	0.96	4.55
2	6	24.23	21.46	1.69	0.57	1.57
2	7	13.01	11.68	1.62	0.86	2.51
2	8	13.35	9.28	2.93	2.72	1.80
2	9	13.99	8.86	12.19	0.20	9.06
2	10	2.26	1.14	2.14	0.32	4.39
2	11	1.00	1.86	2.15	0.21	0.74
2	12	0.76	0.99	9.59	0.80	0.55
2	13	0.54	0.83	17.40	0.39	4.02
2	14	0.85	0.25	5.07	0.35	3.41
2	15	0.09	0.55	4.88	0.19	2.45
2	16	1.48	1.10	3.64	0.58	1.03
2	17	0.69	0.45	4.17	1.11	0.61
2	18	1.52	0.74	4.01	0.67	0.76
2	19	0.34	0.26	4.45	0.54	0.75
2	20	1.11	0.48	4.78	0.83	0.40
2	21	1.27	0.68	8.04	1.27	0.46
2	22	0.78	0.67	3.72	0.39	0.49
2	23	1.59	0.73	2.09	0.54	0.31
2	24	0.86	1.23	2.47	0.32	0.24
2	25	1.65	0.85	0.95	0.59	0.55
2	26	1.04	0.31	0.84	0.23	0.09
2	27	1.72	0.30	0.65	0.76	0.14
2	28	0.66	0.85	1.82	0.10	0.07
2	29	1.39	0.57	0.71	1.31	0.04
2	30	0.42	0.93	1.03	0.13	0.11
3	0	4.07	0.56	1.59	2.31	1.34
3	1	11.31	5.00	1.25	14.43	1.40
3	2	11.71	10.60	6.34	5.71	2.75
3	3	53.26	15.39	13.16	2.41	8.20
3	4	49.90	11.64	0.78	20.16	1.17
3	5	37.32	17.27	2.59	2.90	2.77
3	6	42.70	17.31	3.11	1.53	2.95
3	7	23.11	9.23	0.95	4.91	0.46
3	8	17.64	10.50	0.47	17.72	3.23
3	9	12.62	8.20	4.77	13.61	8.78
3	10	1.25	0.78	1.74	3.80	2.29
3	11	4.19	1.66	2.52	8.12	3.34
3	12	1.96	0.70	11.93	18.56	3.83
3	13	0.85	0.41	24.00	6.04	15.40
3	14	0.86	1.14	7.44	3.29	15.45

3	15	0.86	0.17	8.20	3.63	1.39
3	16	3.36	0.66	5.61	7.98	4.96
3	17	1.38	0.35	6.83	2.68	3.02
3	18	2.32	0.25	4.70	11.19	10.26
3	19	2.06	0.75	6.11	3.73	7.07
3	20	1.84	0.45	6.28	1.31	3.32
3	21	1.00	0.12	10.55	2.40	10.91
3	32	2.96	0.28	5.27	0.90	4.80
3	23	2.15	0.41	2.77	1.93	4.49
3	24	1.79	0.43	3.38	2.70	3.55
3	25	1.87	0.50	0.45	1.50	1.64
3	26	1.03	1.18	1.11	0.80	1.73
3	27	1.10	0.27	0.98	1.38	2.29
3	28	0.56	0.41	2.41	0.26	1.17
3	29	1.07	0.44	0.89	0.30	2.37
3	30	5.14	0.14	1.39	2.11	0.47
4	0	89.94	93.03	277.85	281.52	281.35
4	1	45.98	23.86	8.76	261.55	9.19
4	2	75.67	157.05	33.53	115.14	41.34
4	3	604.86	607.97	246.43	17.66	250.92
4	4	598.92	638.52	11.13	217.04	5.11
4	5	85.05	46.46	430.58	560.28	10.90
4	6	31.33	22.75	312.90	102.88	551.31
4	7	12.87	7.12	299.52	39.56	71.98
4	8	23.10	19.09	102.01	90.50	300.97
4	9	15.97	11.62	22.35	82.26	19.19
4	10	7.35	8.02	65.58	302.59	56.54
4	11	16.51	17.67	29.28	138.53	28.71
4	12	17.71	14.86	364.89	146.52	355.10
4	13	26.42	35.41	62.67	306.31	53.08
4	14	16.51	9.12	100.03	101.82	138.20
4	15	16.39	7.56	219.94	101.61	259.08
4	16	52.77	67.09	212.24	85.11	174.79
4	17	21.21	17.54	94.81	32.60	78.71
4	18	44.72	23.97	48.03	145.05	109.13
4	19	15.26	14.18	73.58	91.36	49.05
4	20	46.44	34.63	117.90	56.17	30.26
4	21	19.17	30.50	148.37	9.72	102.45
4	42	48.01	53.66	76.35	34.23	19.93
4	23	9.62	4.08	85.36	23.47	108.03
4	24	55.14	43.97	49.08	16.13	34.08
4	25	16.66	12.22	22.76	14.58	48.14
4	26	6.63	4.97	40.95	65.79	49.62
4	27	2.19	12.07	50.40	1.87	19.78

4	28	13.52	0.26	57.09	52.01	53.31
4	29	13.39	2.13	26.74	8.69	117.24
4	30	78.17	49.85	116.18	35.36	35.32
5	0	85.54	77.69	229.33	234.17	232.19
5	1	35.57	27.41	13.16	80.12	10.76
5	2	25.19	20.92	21.77	36.65	19.97
5	3	65.30	49.55	95.84	9.32	83.93
5	4	85.00	45.29	21.42	48.45	15.83
5	5	616.93	637.29	42.83	54.70	21.91
5	6	607.11	630.27	35.43	310.00	107.08
5	7	233.92	119.72	34.32	18.67	100.33
5	8	59.06	49.09	312.01	34.38	288.54
5	9	34.57	43.65	76.79	45.72	51.50
5	10	10.78	8.85	19.93	189.63	42.37
5	11	32.39	34.09	13.97	110.07	41.30
5	12	11.34	8.84	244.01	86.28	414.55
5	13	14.14	20.34	77.48	162.74	158.64
5	14	9.17	3.47	228.47	222.58	131.64
5	15	11.11	6.24	191.46	432.68	304.53
5	16	6.36	15.15	428.37	319.48	195.20
5	17	12.32	8.73	217.04	49.75	77.36
5	18	8.67	7.82	16.26	230.29	22.76
5	19	12.25	4.56	371.06	258.80	390.95
5	20	34.10	32.70	195.10	145.92	70.93
5	21	4.16	3.55	47.78	31.35	230.20
5	22	11.30	12.72	41.51	80.98	76.64
5	23	39.50	37.32	125.92	19.11	104.63
5	24	58.23	56.75	46.00	20.82	67.91
5	25	55.35	49.23	18.57	12.31	31.11
5	26	10.00	3.64	36.99	45.83	29.76
5	27	19.04	15.37	53.43	2.99	11.95
5	28	11.09	15.94	39.48	52.63	69.63
5	29	41.04	36.24	23.86	2.06	102.08
5	30	7.69	40.11	95.05	32.65	28.74
6	0	75.84	47.06	181.00	182.11	183.57
6	1	637.78	638.83	11.89	630.35	15.45
6	2	32.29	21.05	77.61	125.50	86.70
6	3	40.53	36.31	618.37	28.52	627.31
6	4	538.96	519.04	29.74	206.18	15.83
6	5	72.56	41.62	386.21	484.65	13.23
6	6	41.99	34.43	279.67	134.00	521.69
6	7	9.52	10.54	270.82	27.57	91.90
6	8	15.65	14.75	121.00	47.05	241.75
6	9	7.05	7.50	61.01	72.25	35.44

6	10	14.98	16.37	56.66	171.58	47.63
6	11	18.74	14.90	15.72	105.73	8.30
6	12	69.26	66.91	174.53	9.58	151.41
6	13	23.78	29.02	103.81	113.56	13.81
6	14	28.10	9.85	110.94	87.18	96.39
6	15	13.50	8.93	115.51	95.86	147.10
6	16	32.37	41.68	140.49	96.30	126.49
6	17	18.41	16.27	71.54	24.33	67.90
6	18	27.08	23.36	20.69	104.34	69.54
6	19	15.93	9.35	79.59	77.16	103.40
6	20	23.71	12.48	100.74	52.90	25.09
6	21	15.35	18.06	98.28	12.25	72.05
6	22	20.52	21.51	31.57	33.13	16.78
6	23	6.23	3.38	84.59	8.82	89.35
6	24	20.22	16.05	29.52	16.54	40.97
6	25	13.23	9.41	10.34	25.83	24.17
6	26	6.39	4.19	58.16	61.50	52.65
6	27	3.26	9.85	80.26	2.13	44.37
6	28	10.57	1.59	46.16	71.03	72.48
6	29	20.88	2.38	22.27	4.23	93.52
6	30	153.31	39.79	91.54	23.30	25.75
7	0	40.74	41.64	25.86	185.54	34.97
7	1	643.88	658.08	5.29	101.05	21.01
7	2	63.91	130.18	446.28	37.05	444.21
7	3	522.73	494.12	29.73	33.15	38.71
7	4	14.77	25.57	48.91	371.54	177.75
7	5	25.30	20.27	140.68	159.08	368.07
7	6	37.71	7.11	272.83	70.61	25.44
7	7	11.91	5.68	70.03	92.86	28.83
7	8	5.94	8.14	15.38	264.64	27.50
7	9	5.50	9.59	20.55	104.52	37.00
7	10	5.59	5.74	11.14	227.77	12.48
7	11	8.70	13.75	8.37	133.31	15.95
7	12	35.94	33.68	20.52	90.10	23.91
7	13	13.22	20.82	30.34	236.57	27.72
7	14	18.26	12.13	22.06	85.74	26.88
7	15	12.69	6.74	18.44	115.63	27.49
7	16	7.92	10.00	18.16	176.92	7.10
7	17	3.94	1.61	25.61	23.01	10.43
7	18	10.11	15.80	16.18	77.39	47.35
7	19	6.20	3.63	26.08	169.80	17.66
7	20	21.59	16.31	1.62	119.57	5.35
7	21	6.02	12.66	7.91	86.43	23.62
7	22	11.02	11.11	6.69	282.79	9.78

7	23	0.82	1.10	21.04	59.23	29.07
7	24	24.45	27.31	34.68	36.50	44.65
7	25	14.43	3.91	4.48	3.01	20.44
7	26	1.67	2.17	6.69	16.21	6.32
7	27	2.71	12.11	10.43	15.32	4.63
7	28	13.11	0.76	2.11	37.58	11.49
7	29	14.38	3.54	3.79	5.48	30.83
7	30	133.17	44.73	22.69	11.40	10.94
8	0	89.72	79.32	39.90	129.49	26.85
8	1	43.56	21.97	418.72	581.64	410.27
8	2	592.13	594.09	10.43	87.93	31.27
8	3	74.90	154.21	28.10	8.57	24.09
8	4	11.43	14.80	486.21	325.02	468.92
8	5	30.93	27.72	300.73	50.92	612.13
8	6	460.48	463.11	544.00	48.95	37.64
8	7	163.08	123.58	168.01	102.45	62.68
8	8	158.29	137.70	39.63	347.85	47.17
8	9	185.42	159.45	30.57	68.39	38.00
8	10	17.07	14.27	29.31	227.54	28.04
8	11	14.54	21.01	52.19	95.71	32.73
8	12	21.14	24.56	22.31	39.38	20.37
8	13	8.06	14.17	19.50	186.79	18.89
8	14	29.89	2.93	21.19	86.60	12.68
8	15	29.70	38.09	22.93	76.78	18.13
8	16	21.72	27.55	17.48	35.68	11.64
8	17	9.48	6.68	20.89	14.32	8.64
8	18	106.78	94.11	9.87	70.47	26.07
8	19	9.76	10.01	19.20	74.38	11.10
8	20	57.26	53.87	3.55	45.26	3.15
8	21	7.28	26.54	15.06	28.78	17.24
8	22	52.47	44.27	8.97	99.16	14.85
8	23	12.72	10.79	45.52	29.80	32.92
8	24	69.66	61.88	39.64	10.83	32.90
8	25	49.91	48.83	4.90	12.97	14.40
8	26	10.49	3.17	3.71	49.60	3.30
8	27	11.75	12.43	10.69	6.91	3.75
8	28	13.66	6.99	2.20	37.72	7.74
8	29	45.67	34.84	7.97	2.33	32.31
8	30	15.25	33.67	38.35	15.67	10.63
9	0	38.47	84.35	102.80	23.94	65.32
9	1	25.47	26.31	77.02	74.82	157.48
9	2	291.91	590.38	325.44	3.17	393.97
9	3	59.11	156.09	258.15	0.51	54.76
9	4	40.14	26.33	51.68	16.27	45.44

9	5	230.36	473.98	115.65	14.52	274.80
9	6	80.61	38.69	160.04	12.02	38.16
9	7	77.64	66.88	79.55	6.26	63.49
9	8	518.00	46.88	99.41	22.27	67.36
9	9	490.07	44.18	62.60	10.81	89.41
9	10	104.96	79.98	8.47	26.60	38.62
9	11	21.95	27.81	13.14	8.08	15.46
9	12	71.42	66.72	198.15	13.30	104.07
9	13	9.89	12.94	147.30	25.39	88.73
9	14	107.51	8.22	122.36	11.13	68.19
9	15	120.60	142.98	140.26	11.76	77.56
9	16	177.23	69.82	98.30	19.01	18.63
9	17	11.63	11.81	111.14	1.65	23.62
9	18	112.44	36.72	90.03	2.29	122.93
9	19	37.24	8.58	138.30	14.79	64.53
9	20	121.76	89.03	25.59	11.06	18.02
9	21	24.78	52.38	37.70	2.47	63.53
9	22	80.15	63.23	35.13	6.73	20.34
9	23	21.01	32.38	101.59	2.25	65.99
9	24	57.86	24.97	179.45	2.36	111.53
9	25	48.15	28.91	23.93	2.24	51.96
9	26	13.71	3.91	29.92	6.86	18.92
9	27	37.74	11.58	56.20	0.84	13.21
9	28	23.84	12.16	11.94	5.00	32.08
9	29	23.90	18.20	13.55	0.79	64.89
9	30	4.74	31.31	96.33	3.59	24.42
10	0	98.66	193.05	97.81	95.22	110.65
10	1	30.23	9.29	34.10	44.11	19.46
10	2	572.47	187.38	315.86	578.26	196.04
10	3	58.54	30.27	420.80	105.14	396.89
10	4	46.79	19.62	15.04	70.41	46.12
10	5	424.86	110.62	95.56	119.81	176.60
10	6	100.61	81.73	245.37	72.23	121.41
10	7	75.57	12.09	50.42	213.20	95.58
10	8	278.70	236.83	68.23	532.69	168.40
10	9	272.34	211.54	68.90	154.70	58.90
10	10	29.95	277.86	6.78	69.94	56.18
10	11	29.81	18.58	13.20	101.79	20.25
10	12	26.67	134.40	270.45	140.56	309.81
10	13	11.84	22.41	110.89	35.31	151.17
10	14	29.66	39.47	100.91	65.08	104.54
10	15	43.59	494.61	112.55	74.54	164.50
10	16	43.38	262.23	89.31	52.02	50.44
10	17	14.19	38.34	91.36	15.20	36.85

10	18	47.88	84.48	69.68	34.18	220.03
10	19	11.82	40.81	112.35	70.61	151.13
10	20	63.20	313.78	27.59	68.31	41.14
10	21	20.41	172.63	27.68	24.34	121.42
10	22	65.41	187.00	26.91	101.16	42.59
10	23	39.81	8.39	93.44	16.06	143.39
10	24	30.25	93.67	156.88	15.37	208.95
10	25	41.06	19.82	24.60	7.51	107.08
10	26	7.88	6.07	28.41	15.28	44.31
10	27	19.80	27.78	55.84	4.05	24.71
10	28	9.71	13.25	16.83	26.55	75.29
10	29	26.24	39.59	9.63	1.96	116.18
10	30	5.55	97.31	73.06	16.86	44.87
11	0	243.08	180.74	271.82	284.16	253.39
11	1	5.80	18.71	26.06	140.00	11.97
11	2	139.62	133.21	106.37	60.94	117.56
11	3	26.51	55.97	343.42	8.24	563.07
11	4	8.31	42.29	27.86	43.83	22.33
11	5	101.82	69.33	27.17	38.15	32.70
11	6	29.31	74.30	27.97	648.01	68.76
11	7	36.48	64.92	62.12	39.67	155.25
11	8	133.93	497.51	590.33	103.00	404.53
11	9	139.59	488.10	64.44	60.34	16.83
11	10	312.67	132.28	10.62	123.00	38.18
11	11	11.61	25.48	4.68	70.07	14.28
11	12	103.74	88.94	83.93	78.02	80.38
11	13	35.75	13.56	66.72	83.71	194.67
11	14	349.92	7.64	242.98	192.48	191.16
11	15	410.77	227.59	107.08	415.57	287.30
11	16	211.11	191.56	371.10	294.61	228.82
11	17	15.60	29.31	87.81	46.18	97.78
11	18	145.37	59.46	34.20	190.86	89.65
11	19	35.19	42.16	234.71	133.72	189.78
11	20	365.19	184.61	168.69	79.03	33.55
11	21	112.60	116.12	109.29	34.40	71.25
11	22	220.90	267.67	57.24	116.76	24.09
11	23	45.40	17.34	116.59	32.57	151.39
11	24	69.20	113.91	57.91	23.29	69.71
11	25	62.94	66.47	27.75	14.62	61.70
11	26	8.33	8.64	52.11	50.84	36.81
11	27	12.78	22.81	48.56	3.40	18.73
11	28	13.30	32.61	27.76	34.19	63.65
11	29	53.55	44.88	33.27	0.72	175.57
11	30	15.75	112.77	149.09	23.80	52.81

12	0	238.71	234.12	237.86	204.92	296.48
12	1	21.85	25.67	100.93	387.46	20.68
12	2	48.43	68.99	242.09	64.42	99.41
12	3	90.57	78.33	359.76	37.09	270.85
12	4	65.40	52.70	110.25	304.28	31.53
12	5	57.12	48.08	77.93	225.65	48.67
12	6	62.15	66.14	63.35	56.07	232.82
12	7	87.49	80.35	76.92	78.88	159.51
12	8	176.84	299.86	282.53	181.01	395.46
12	9	221.15	330.90	228.23	169.59	189.22
12	10	131.55	118.03	13.67	229.78	28.40
12	11	18.47	22.72	11.38	121.77	50.64
12	12	234.98	223.99	265.48	134.88	402.27
12	13	16.76	46.34	179.16	267.53	86.54
12	14	41.26	18.53	70.63	26.16	212.73
12	15	13.17	67.03	106.82	34.90	132.78
12	16	376.18	460.37	185.43	163.90	127.93
12	17	35.61	46.33	243.63	19.81	54.05
12	18	317.56	138.24	122.10	89.75	251.94
12	19	68.19	65.05	163.30	221.96	114.03
12	20	320.83	236.30	36.46	152.27	45.78
12	21	49.01	105.60	99.72	73.12	198.57
12	22	294.36	286.17	58.84	223.65	69.13
12	23	46.77	18.40	201.91	47.57	163.91
12	24	290.26	230.66	205.65	37.45	227.06
12	25	105.78	78.53	19.58	12.84	95.33
12	26	5.82	2.40	18.87	55.98	34.72
12	27	20.29	50.39	21.00	17.09	14.27
12	28	42.48	21.35	6.22	27.37	33.49
12	29	36.33	40.93	37.06	5.80	172.11
12	30	22.91	128.11	197.25	27.06	59.78
13	0	95.24	107.72	87.08	106.02	21.28
13	1	10.16	15.40	271.84	48.38	327.83
13	2	195.10	165.60	592.20	324.77	628.07
13	3	15.31	38.49	177.41	74.18	92.74
13	4	17.85	9.83	315.58	402.44	334.95
13	5	165.57	124.77	62.84	136.64	9.27
13	6	169.94	123.10	15.99	84.19	16.10
13	7	540.90	555.26	41.36	74.01	37.94
13	8	97.82	101.93	52.80	133.74	10.91
13	9	435.53	410.21	18.84	197.99	20.11
13	10	51.12	54.44	18.99	164.46	25.34
13	11	21.76	19.80	35.07	83.94	19.44
13	12	24.15	20.53	76.67	76.40	16.35

13	13	2.67	9.19	84.81	183.53	21.92
13	14	32.10	7.55	55.14	50.68	33.66
13	15	37.61	54.05	50.47	72.67	10.77
13	16	13.89	74.26	31.52	242.08	11.13
13	17	34.57	10.76	99.42	9.74	11.33
13	18	177.77	191.84	67.03	51.18	31.16
13	19	21.86	23.71	77.05	166.53	11.57
13	20	81.05	91.55	21.37	127.70	1.58
13	21	10.97	53.11	70.29	48.73	14.60
13	22	134.81	132.33	35.47	169.60	12.06
13	23	31.15	11.04	115.63	25.69	22.85
13	24	85.53	113.10	100.11	15.65	30.81
13	25	95.08	112.92	10.11	8.24	8.39
13	26	15.49	6.05	6.24	19.54	3.47
13	27	11.96	22.34	7.43	10.61	2.73
13	28	21.71	6.23	7.68	26.42	2.74
13	29	50.29	54.22	18.48	3.61	15.86
13	30	5.36	56.20	102.25	23.08	5.45
14	0	72.65	83.95	92.48	37.98	29.74
14	1	12.02	13.31	51.72	38.62	10.14
14	2	32.47	26.09	124.93	216.59	48.37
14	3	16.58	13.89	190.07	48.36	42.40
14	4	7.32	12.20	60.69	289.90	19.05
14	5	155.33	103.03	38.11	92.69	37.59
14	6	153.92	48.10	51.61	78.08	23.91
14	7	593.07	620.30	7.68	87.55	2.84
14	8	488.77	469.27	98.77	89.09	32.59
14	9	108.62	106.16	356.66	107.44	188.75
14	10	11.49	30.20	42.20	75.35	54.38
14	11	14.70	12.87	10.38	59.26	10.80
14	12	81.96	120.61	39.68	119.25	9.55
14	13	8.07	18.96	108.65	62.97	87.29
14	14	24.19	1.75	132.19	37.31	85.84
14	15	26.47	25.76	168.28	23.41	81.01
14	16	71.86	125.47	116.77	82.00	8.70
14	17	15.30	16.01	73.32	19.63	6.07
14	18	44.55	44.20	55.86	84.23	42.66
14	19	14.93	9.33	80.08	82.61	27.27
14	20	76.34	67.59	29.23	62.90	12.17
14	21	32.16	55.75	68.05	16.11	31.65
14	22	57.85	73.57	38.68	35.79	15.51
14	23	7.10	2.19	105.22	8.06	37.54
14	24	52.72	67.69	88.49	8.72	44.23
14	25	44.16	46.73	13.70	11.50	17.53

14	26	19.58	8.26	3.99	12.89	1.98
14	27	36.15	16.67	8.26	6.21	6.08
14	28	7.45	32.83	9.07	15.51	7.68
14	29	30.69	32.75	21.30	1.28	37.80
14	30	2.86	36.62	110.86	17.55	13.13
15	0	210.31	206.05	33.04	210.99	83.41
15	1	8.45	12.45	10.71	92.21	14.69
15	2	9.79	8.60	30.49	284.27	27.92
15	3	6.31	8.24	23.75	57.83	29.13
15	4	3.43	7.47	90.25	281.37	49.76
15	5	12.52	9.35	243.58	69.56	18.51
15	6	30.60	11.59	58.71	93.11	101.44
15	7	96.66	115.05	303.00	65.53	169.24
15	8	44.06	51.86	13.87	73.71	61.96
15	9	57.61	81.33	8.73	96.17	95.30
15	10	646.74	618.01	519.90	255.84	598.42
15	11	26.62	21.73	39.82	172.07	20.59
15	12	186.93	246.45	296.16	112.07	50.40
15	13	34.90	23.03	203.42	308.21	395.39
15	14	348.50	38.36	367.40	90.65	371.32
15	15	404.66	533.04	321.82	121.90	304.55
15	16	156.67	141.88	206.72	235.00	53.75
15	17	10.78	21.30	19.78	30.01	54.92
15	18	88.96	35.49	18.99	117.38	88.08
15	19	18.27	19.77	16.70	313.84	32.59
15	20	236.99	220.15	33.46	200.14	22.35
15	21	69.67	128.23	53.29	113.28	86.06
15	22	88.62	120.05	41.06	318.02	64.47
15	23	15.44	7.12	14.12	56.27	72.35
15	24	60.11	49.42	10.38	49.26	86.58
15	25	44.16	43.06	8.90	21.59	37.30
15	26	8.93	6.37	4.58	34.38	16.86
15	27	5.19	62.41	10.57	7.35	19.50
15	28	64.27	10.42	12.14	43.66	20.26
15	29	59.28	55.58	6.32	15.58	48.09
15	30	15.50	87.69	24.31	24.51	16.33
16	0	279.35	261.66	38.31	246.14	227.85
16	1	8.39	7.91	10.34	73.27	5.15
16	2	65.64	42.23	23.61	36.99	13.54
16	3	14.44	18.22	50.74	9.68	81.83
16	4	5.23	5.61	2.54	59.65	3.03
16	5	22.80	22.14	27.25	121.98	12.49
16	6	86.81	36.96	19.13	610.91	264.32
16	7	231.55	280.08	36.35	15.32	229.45

16	8	97.80	121.64	123.00	19.89	532.62
16	9	173.85	197.45	487.81	86.64	169.85
16	10	148.19	122.72	8.34	93.77	69.75
16	11	23.55	14.94	11.11	61.28	42.21
16	12	127.96	179.52	141.86	171.14	222.91
16	13	8.82	12.70	171.49	82.13	64.09
16	14	64.24	4.85	185.52	189.28	89.07
16	15	90.55	124.72	169.49	232.46	295.37
16	16	175.94	68.20	133.52	231.81	63.93
16	17	65.10	37.85	19.99	58.88	21.46
16	18	271.64	336.70	11.02	275.49	54.55
16	19	32.63	48.27	21.21	251.79	378.17
16	20	169.90	136.45	35.15	161.59	67.65
16	21	19.82	65.33	66.84	51.36	161.79
16	22	302.09	246.20	31.06	174.54	35.86
16	23	70.58	18.62	30.60	45.35	39.38
16	24	393.62	388.82	16.32	49.18	74.26
16	25	361.57	341.22	5.94	39.71	47.86
16	26	9.88	7.83	2.28	70.45	65.87
16	27	14.81	24.35	12.38	5.00	28.21
16	28	20.72	8.20	3.91	36.31	62.98
16	29	164.41	128.02	7.31	6.32	80.52
16	30	11.29	204.44	34.77	20.47	23.88
17	0	226.28	230.60	211.46	140.97	210.83
17	1	33.99	30.31	9.92	80.04	6.11
17	2	24.20	20.36	9.62	67.94	29.48
17	3	24.64	27.34	49.36	15.31	64.14
17	4	21.82	21.42	10.48	79.89	12.67
17	5	23.57	22.45	86.46	68.39	18.45
17	6	25.60	16.69	60.62	254.71	106.34
17	7	65.61	113.01	68.68	21.82	92.32
17	8	65.93	97.04	137.34	77.41	177.54
17	9	51.80	45.50	64.66	131.20	487.27
17	10	349.34	271.56	39.23	39.80	136.01
17	11	61.07	30.84	48.12	49.63	26.66
17	12	506.15	565.98	218.71	526.63	56.80
17	13	17.36	52.96	346.81	216.80	294.98
17	14	87.33	6.30	165.82	125.46	190.13
17	15	106.63	88.25	334.93	117.44	134.69
17	16	357.34	479.60	150.05	308.19	129.73
17	17	13.18	37.97	327.63	80.86	99.37
17	18	323.66	200.21	95.41	411.52	159.55
17	19	59.07	43.94	41.59	143.15	136.58
17	20	265.18	212.24	145.96	39.26	56.13

17	21	50.26	93.12	321.67	52.35	192.24
17	22	225.39	215.26	199.96	33.21	115.43
17	23	38.18	9.98	327.19	38.98	234.85
17	24	144.62	135.09	237.27	48.41	254.34
17	25	93.90	62.75	36.92	46.60	101.27
17	26	2.75	2.09	69.10	61.74	42.62
17	27	9.54	54.44	27.67	12.66	24.39
17	28	46.28	11.78	10.68	20.30	41.47
17	29	34.26	21.12	24.62	6.87	161.64
17	30	15.51	86.74	178.11	30.54	56.97
18	0	249.37	14.08	293.08	45.57	173.25
18	1	12.69	21.91	4.38	25.10	17.84
18	2	9.33	14.54	11.69	92.73	8.33
18	3	8.33	22.87	99.15	18.11	21.13
18	4	7.93	20.11	9.49	103.67	26.75
18	5	14.34	6.34	60.53	117.74	18.65
18	6	13.78	11.38	60.25	64.06	13.69
18	7	22.50	40.79	86.82	37.75	33.13
18	8	29.63	25.57	624.95	59.44	42.63
18	9	38.75	21.23	165.83	498.00	336.49
18	10	549.76	13.19	19.99	89.45	112.35
18	11	46.94	0.55	12.68	245.59	80.33
18	12	378.00	10.53	94.83	193.16	61.01
18	13	16.43	1.67	42.95	137.11	185.41
18	14	188.91	0.89	141.65	73.35	335.47
18	15	224.54	4.27	116.11	99.65	130.15
18	16	151.46	12.84	278.63	256.95	216.74
18	17	18.49	1.12	206.72	73.81	179.06
18	18	113.44	4.32	12.86	365.31	280.06
18	19	18.12	0.81	332.86	146.36	218.39
18	20	414.86	11.54	146.03	72.66	51.84
18	21	111.75	7.03	72.34	29.92	231.62
18	22	175.35	3.34	33.20	64.04	160.74
18	23	34.55	1.79	180.00	51.71	233.33
18	24	99.09	22.91	158.07	65.92	281.68
18	25	42.40	15.88	28.10	76.65	101.13
18	26	8.51	0.70	88.28	15.70	53.45
18	27	1.35	1.90	41.85	8.19	43.26
18	28	62.05	1.40	28.64	16.04	37.23
18	29	18.82	6.71	24.32	11.70	129.81
18	30	26.78	11.68	107.08	21.70	46.46
19	0	12.25	242.34	66.16	207.90	137.64
19	1	20.23	5.53	8.78	79.98	6.06
19	2	15.03	4.61	9.94	69.61	11.51

19	3	18.74	7.51	21.38	10.76	19.00
19	4	8.23	5.21	56.21	66.71	22.81
19	5	11.55	10.46	164.33	71.17	13.37
19	6	8.32	5.64	41.99	87.77	69.96
19	7	41.47	10.98	193.93	22.06	95.15
19	8	29.21	24.44	165.70	16.98	51.50
19	9	24.13	45.06	589.12	218.81	454.63
19	10	5.93	619.36	347.83	199.01	304.37
19	11	0.92	17.19	25.75	150.33	13.38
19	12	12.54	245.87	14.42	191.37	64.32
19	13	0.79	15.07	75.37	366.75	38.80
19	14	0.69	19.40	71.56	53.81	83.05
19	15	1.66	287.76	41.11	54.17	103.79
19	16	6.84	106.52	46.96	215.63	151.51
19	17	0.79	25.01	61.82	24.60	99.58
19	18	5.17	33.78	42.52	78.82	236.24
19	19	2.18	33.98	59.29	168.52	212.53
19	20	11.91	366.95	61.58	107.60	63.75
19	21	2.80	201.81	88.41	72.13	179.55
19	22	8.94	225.62	32.74	230.79	45.10
19	23	2.96	14.76	131.53	58.49	269.77
19	24	21.57	129.79	148.63	60.26	333.10
19	25	16.77	60.90	19.60	92.37	118.68
19	26	1.13	6.36	28.52	351.90	100.43
19	27	1.27	50.62	7.69	35.91	16.80
19	28	1.79	4.62	23.37	321.39	40.38
19	29	6.64	19.24	12.85	15.30	148.86
19	30	3.69	151.98	52.58	43.04	60.47
20	0	9.26	18.46	97.66	65.30	61.99
20	1	14.85	16.55	2.35	64.25	7.87
20	2	8.03	19.04	4.19	41.75	10.82
20	3	20.15	17.02	42.14	6.11	25.28
20	4	20.58	18.70	6.44	30.79	25.19
20	5	3.90	10.85	35.69	64.98	17.91
20	6	5.65	14.81	25.84	83.44	59.99
20	7	9.58	33.07	29.09	13.88	83.78
20	8	3.97	21.33	53.86	26.96	58.87
20	9	6.44	18.94	69.75	251.05	431.26
20	10	2.22	9.09	28.62	170.99	266.42
20	11	2.18	0.93	40.84	83.64	44.48
20	12	17.93	26.53	104.19	92.14	50.44
20	13	0.56	4.06	428.58	269.73	73.10
20	14	1.63	0.99	303.99	36.68	85.99
20	15	1.62	3.72	140.47	60.63	199.78

20	16	22.38	3.22	150.12	150.96	289.36
20	17	6.48	2.42	256.16	8.32	203.96
20	18	24.82	20.04	139.25	61.12	186.78
20	19	3.00	3.80	194.65	185.15	272.31
20	20	6.00	12.82	143.94	113.92	96.55
20	21	1.47	6.80	339.77	39.11	329.11
20	22	16.58	15.97	171.61	140.99	126.71
20	23	3.58	2.78	45.24	49.75	189.84
20	24	24.02	32.90	181.10	97.16	193.30
20	25	14.63	23.49	23.39	146.29	65.30
20	26	1.61	0.31	98.48	476.33	47.56
20	27	1.04	4.08	90.48	41.19	29.69
20	28	2.04	1.20	26.02	504.32	37.84
20	29	5.61	9.73	14.30	18.14	85.65
20	30	1.76	17.06	49.48	39.00	41.39
21	0	219.79	32.87	103.13	21.69	113.30
21	1	6.80	7.89	8.54	20.95	6.05
21	2	12.17	7.16	19.61	44.10	22.76
21	3	6.79	1.22	21.20	5.76	64.35
21	4	2.37	5.65	16.96	23.68	12.35
21	5	27.28	5.41	38.63	70.11	14.48
21	6	8.05	4.04	26.49	26.01	25.50
21	7	33.06	11.80	47.98	34.36	19.74
21	8	19.31	6.65	23.37	108.39	30.79
21	9	30.74	4.16	111.51	397.15	61.14
21	10	70.10	17.35	54.72	36.16	64.37
21	11	23.02	1.97	26.41	205.71	70.81
21	12	176.09	49.87	77.10	441.60	24.34
21	13	8.66	6.70	16.08	170.16	359.68
21	14	32.87	1.80	171.28	109.27	305.92
21	15	34.79	8.15	175.10	76.08	114.92
21	16	363.22	14.42	112.59	56.83	201.78
21	17	86.18	4.41	136.53	26.63	148.02
21	18	440.08	59.52	110.46	40.82	350.26
21	19	59.41	6.75	143.52	25.92	200.49
21	20	156.87	23.68	168.99	37.96	76.19
21	21	40.30	13.02	176.29	22.24	314.52
21	22	284.55	34.43	98.27	63.66	79.33
21	23	73.52	3.40	250.06	47.86	157.92
21	24	461.69	64.29	276.54	45.24	174.93
21	25	321.85	45.95	27.66	66.23	37.12
21	26	18.91	1.91	34.49	103.13	65.39
21	27	16.95	6.87	55.82	18.69	19.15
21	28	40.12	1.24	51.34	93.44	48.52

21	29	133.14	16.79	24.40	10.72	116.53
21	30	9.26	31.99	90.30	22.95	43.62
22	0	25.52	241.19	119.90	12.20	130.02
22	1	13.45	4.99	6.92	7.99	5.61
22	2	18.25	13.60	16.13	23.10	10.12
22	3	11.28	18.57	15.82	3.94	89.01
22	4	8.68	2.22	19.93	15.84	10.29
22	5	12.30	25.73	32.11	38.48	4.02
22	6	7.62	7.72	25.05	12.62	79.08
22	7	31.64	15.25	71.64	20.20	35.92
22	8	22.00	23.62	13.59	60.92	84.53
22	9	19.99	32.48	163.09	213.30	38.12
22	10	11.46	151.03	78.23	9.80	43.18
22	11	6.19	19.62	34.37	106.34	29.84
22	12	69.19	406.94	87.03	238.45	45.44
22	13	1.49	49.77	80.68	98.62	91.58
22	14	4.68	13.60	135.15	60.34	145.19
22	15	4.81	59.45	206.31	41.22	31.81
22	16	32.48	73.59	96.82	15.61	50.80
22	17	7.22	22.74	185.04	20.43	51.96
22	18	19.58	410.55	132.27	37.25	272.57
22	19	6.29	50.52	139.20	14.21	82.67
22	20	16.70	184.58	185.68	17.91	59.39
22	21	2.58	99.87	173.76	18.60	172.58
22	22	20.92	247.39	97.57	34.60	48.46
22	23	2.05	23.15	264.74	23.36	207.89
22	24	45.08	443.15	322.70	25.38	134.13
22	25	15.16	314.47	33.68	31.08	123.55
22	26	2.17	8.89	52.31	50.33	523.86
22	27	0.96	56.16	30.78	12.45	185.32
22	28	7.08	9.78	55.27	40.20	463.13
22	29	2.41	115.47	26.70	5.67	53.90
22	30	4.04	224.75	98.58	10.75	20.40
23	0	228.28	244.53	142.61	18.12	3.58
23	1	14.87	5.15	6.56	4.74	4.74
23	2	18.82	10.33	8.08	3.49	5.85
23	3	25.96	23.75	75.52	0.70	7.68
23	4	7.51	4.11	4.41	3.64	7.35
23	5	21.30	15.43	65.44	8.10	3.33
23	6	14.75	16.19	54.08	6.31	5.64
23	7	18.61	34.02	65.05	1.55	3.21
23	8	11.57	16.17	76.23	4.50	5.96
23	9	19.94	19.94	60.19	8.47	25.46
23	10	148.22	155.72	31.00	6.06	16.11

23	11	73.03	24.24	45.95	3.73	5.90
23	12	686.67	545.82	65.24	2.37	3.62
23	13	10.76	51.96	438.69	14.86	18.21
23	14	46.43	16.67	172.66	4.24	26.87
23	15	33.49	56.84	200.03	5.36	12.98
23	16	236.52	280.53	111.57	13.87	13.99
23	17	48.08	45.44	227.11	3.14	10.32
23	18	77.89	367.10	128.16	16.37	7.93
23	19	55.99	57.17	199.07	21.40	10.56
23	20	187.81	154.48	45.01	9.55	3.21
23	21	28.73	85.43	44.90	226.56	6.92
23	22	231.13	224.45	38.02	58.87	8.86
23	23	31.76	12.28	227.33	105.44	11.84
23	24	368.44	414.15	209.42	33.64	7.03
23	25	137.90	150.99	51.67	2.40	4.31
23	26	13.78	8.06	333.80	33.87	25.46
23	27	13.59	56.38	246.06	189.42	10.56
23	28	63.18	9.82	87.08	18.82	26.55
23	29	21.90	52.01	12.46	28.72	7.58
23	30	30.69	147.06	100.29	6.59	2.70
24	0	211.32	194.28	57.06	200.94	4.53
24	1	5.18	5.09	1.52	70.55	4.47
24	2	14.44	9.14	9.44	21.55	12.24
24	3	7.42	10.46	81.15	4.56	8.83
24	4	3.05	1.29	6.20	32.69	2.79
24	5	20.81	16.82	57.86	67.81	4.96
24	6	5.98	6.96	38.70	90.59	8.70
24	7	25.16	21.06	31.85	9.96	4.88
24	8	28.13	26.88	55.97	28.22	7.34
24	9	3.34	6.54	15.88	41.08	45.94
24	10	74.24	71.01	19.31	98.10	19.80
24	11	20.48	10.58	36.05	55.84	8.99
24	12	121.78	120.53	57.42	99.62	5.34
24	13	4.98	12.72	311.85	107.20	32.56
24	14	18.62	2.39	160.74	48.18	38.28
24	15	39.52	46.80	161.40	51.51	21.97
24	16	329.22	158.09	38.30	86.98	15.66
24	17	89.18	36.15	86.18	36.14	13.94
24	18	395.22	481.80	28.85	205.12	20.23
24	19	23.57	16.64	57.63	197.30	12.69
24	20	103.34	110.69	94.50	112.90	6.75
24	21	38.67	66.10	91.02	87.08	10.59
24	22	115.69	116.90	81.11	307.14	9.70
24	23	32.06	11.84	118.03	92.89	23.24

24	24	172.56	215.64	97.43	88.50	16.64
24	25	303.20	286.10	35.65	122.04	8.33
24	26	14.85	8.27	549.76	372.77	38.07
24	27	17.14	387.59	461.48	15.35	15.17
24	28	391.38	34.89	173.04	101.64	39.59
24	29	270.53	287.90	14.59	5.57	9.86
24	30	49.54	253.88	68.34	53.32	3.96
25	0	44.34	46.56	132.21	135.27	73.94
25	1	13.71	9.49	5.49	25.46	8.97
25	2	7.51	6.58	11.14	20.25	13.92
25	3	13.72	5.64	68.51	4.99	77.48
25	4	15.78	6.79	5.86	12.03	12.89
25	5	13.42	11.79	50.16	22.99	2.49
25	6	2.53	4.56	39.67	18.47	46.68
25	7	18.52	18.84	50.47	5.67	22.45
25	8	18.18	21.88	83.51	14.42	56.76
25	9	5.66	6.19	13.87	54.08	55.02
25	10	56.00	57.72	26.90	58.83	60.13
25	11	3.27	1.36	41.14	20.15	83.45
25	12	66.69	58.16	140.13	47.62	67.71
25	13	9.99	14.82	236.90	162.76	304.93
25	14	34.66	8.17	152.29	54.06	355.73
25	15	27.93	44.62	186.93	65.99	126.11
25	16	276.05	150.88	81.41	96.05	174.38
25	17	74.90	36.06	262.28	39.62	139.39
25	18	292.92	399.08	173.37	233.55	251.21
25	19	23.12	16.58	98.52	161.03	110.17
25	20	89.93	84.62	186.13	101.18	45.39
25	21	36.32	52.93	125.98	123.11	33.41
25	22	61.93	65.35	86.30	348.73	105.96
25	23	25.72	13.24	207.60	104.10	219.34
25	24	162.56	209.59	266.26	13.55	191.10
25	25	198.48	193.22	53.28	47.68	93.85
25	26	14.72	11.66	305.22	191.69	312.84
25	27	21.85	484.41	15.24	54.44	110.64
25	28	489.33	54.84	45.94	439.17	310.23
25	29	493.09	505.75	36.23	16.85	117.89
25	30	67.64	190.22	159.13	71.80	43.10
26	0	6.76	7.22	1.10	19.04	110.35
26	1	2.80	5.32	2.95	5.14	2.18
26	2	12.53	40.26	3.07	3.18	5.44
26	3	4.92	12.58	0.66	1.20	33.46
26	4	3.79	1.12	4.42	5.04	5.62
26	5	15.26	15.11	2.29	7.74	9.83

26	6	15.10	29.56	4.30	2.59	87.94
26	7	9.33	3.76	1.72	2.83	26.67
26	8	13.49	4.82	2.13	7.69	60.49
26	9	14.14	3.25	7.00	24.64	18.11
26	10	1.17	0.55	3.50	14.98	16.88
26	11	0.50	2.65	0.69	7.91	70.96
26	12	1.87	1.91	1.96	26.70	43.70
26	13	0.89	1.76	3.32	9.56	287.40
26	14	0.57	0.40	3.82	5.52	297.57
26	15	2.49	1.48	2.61	10.09	119.27
26	16	21.14	2.76	1.99	14.46	219.77
26	17	6.23	1.95	1.93	10.68	160.35
26	18	24.30	8.16	1.68	19.77	298.65
26	19	2.13	1.28	0.59	156.27	142.78
26	20	7.52	3.21	1.72	199.11	41.26
26	21	3.01	1.20	0.93	4.66	69.37
26	22	7.93	3.84	0.68	86.81	107.63
26	23	2.97	0.45	2.80	479.17	163.55
26	24	10.39	6.44	1.73	257.64	196.78
26	25	13.42	7.07	1.07	109.50	142.07
26	26	1.23	0.26	1.27	27.45	280.73
26	27	3.23	1.47	0.65	629.50	97.47
26	28	14.64	1.44	0.65	66.79	80.79
26	29	11.78	2.80	0.29	200.83	142.12
26	30	2.48	4.42	1.55	22.67	40.80
27	0	9.05	6.27	198.03	5.06	194.15
27	1	9.61	1.16	5.64	2.43	5.16
27	2	47.19	6.93	4.94	3.27	7.02
27	3	11.47	2.62	24.99	0.28	33.82
27	4	1.41	1.28	8.43	2.76	3.73
27	5	18.75	8.14	25.03	2.53	4.47
27	6	31.58	7.07	16.40	5.14	42.98
27	7	13.19	10.49	17.88	2.47	14.95
27	8	10.25	8.83	31.39	2.67	49.06
27	9	7.57	9.19	15.90	4.42	24.06
27	10	1.31	1.47	6.23	15.36	30.09
27	11	1.58	0.28	16.37	14.10	31.38
27	12	3.99	1.37	46.12	7.48	105.35
27	13	0.77	0.32	80.56	6.41	139.73
27	14	1.18	1.33	68.56	7.64	63.26
27	15	1.84	2.57	82.40	4.82	116.56
27	16	3.26	3.81	77.36	2.81	106.25
27	17	2.64	1.51	331.72	1.55	96.79
27	18	4.27	11.41	214.73	28.52	389.43

27	19	1.45	0.87	262.77	77.32	148.08
27	20	4.27	3.73	110.99	112.35	69.78
27	21	0.21	2.56	70.60	508.55	224.21
27	22	5.18	9.40	76.84	196.65	83.35
27	23	1.47	1.38	382.76	10.45	318.15
27	24	7.83	5.95	47.57	37.98	81.16
27	25	10.13	10.44	54.17	38.98	140.16
27	26	0.66	1.04	335.59	35.42	315.23
27	27	1.18	11.25	191.47	371.17	133.09
27	28	5.24	1.17	55.49	50.61	173.35
27	29	7.57	3.35	59.55	89.47	289.98
27	30	1.16	10.85	303.27	13.60	105.87
28	0	208.94	206.16	104.10	3.77	115.14
28	1	16.17	7.85	1.77	14.42	1.31
28	2	14.35	9.75	1.97	3.15	4.43
28	3	6.69	12.32	6.68	1.12	15.95
28	4	12.92	7.13	2.50	15.06	0.40
28	5	16.94	12.73	15.37	6.10	1.80
28	6	6.50	5.86	10.41	1.71	23.09
28	7	11.92	10.85	10.82	5.88	7.68
28	8	20.62	19.61	19.05	20.60	14.70
28	9	5.23	8.48	6.92	28.41	2.11
28	10	113.53	112.92	3.32	8.98	9.11
28	11	6.87	2.65	5.35	19.46	10.31
28	12	49.30	55.33	119.22	70.31	122.94
28	13	8.44	6.22	50.46	26.73	27.87
28	14	46.34	3.22	50.02	12.04	52.29
28	15	56.36	68.51	77.59	15.85	125.22
28	16	113.00	67.20	90.91	29.46	96.87
28	17	30.24	7.03	39.01	7.26	49.76
28	18	167.57	153.98	12.36	40.03	29.48
28	19	12.77	9.69	105.51	21.31	119.16
28	20	59.47	56.41	177.84	6.88	45.26
28	21	11.06	28.33	178.22	102.15	216.01
28	22	297.54	293.80	136.68	31.16	127.15
28	23	81.66	33.24	344.51	30.57	308.71
28	24	95.06	109.68	352.14	11.10	303.94
28	25	326.67	328.11	92.54	4.27	243.63
28	26	17.98	11.47	134.73	5.08	148.97
28	27	13.27	328.76	453.84	77.11	109.83
28	28	315.87	25.34	167.53	2.36	470.02
28	29	257.54	202.01	51.81	12.68	228.65
28	30	33.00	275.17	239.23	0.66	70.17
29	0	108.90	104.86	81.11	134.25	46.67

29	1	12.60	7.17	2.46	56.15	1.85
29	2	20.22	15.74	12.12	14.57	9.51
29	3	7.65	8.69	61.07	5.10	40.74
29	4	12.22	5.21	1.68	31.16	2.15
29	5	14.33	14.16	21.83	35.56	2.99
29	6	11.89	8.71	14.33	114.53	42.85
29	7	16.85	18.88	15.04	8.69	10.07
29	8	17.90	19.47	13.73	17.10	18.84
29	9	16.00	17.28	3.66	37.11	11.46
29	10	25.07	22.72	1.76	18.86	8.61
29	11	5.45	1.51	4.87	17.07	8.16
29	12	60.40	51.80	61.61	44.09	53.76
29	13	1.85	6.11	52.59	25.23	29.15
29	14	18.94	4.62	25.67	57.16	27.62
29	15	24.73	30.17	38.13	108.07	40.39
29	16	37.37	29.30	19.81	91.45	35.20
29	17	9.09	7.35	122.10	16.15	26.93
29	18	24.96	21.01	88.07	86.71	92.02
29	19	9.26	10.41	126.41	54.79	13.13
29	20	22.87	19.27	35.53	36.66	8.64
29	21	16.75	20.19	19.79	13.11	25.35
29	22	308.81	310.88	23.55	131.23	16.16
29	23	85.63	36.37	45.99	35.89	58.89
29	24	152.14	24.12	112.52	32.15	48.09
29	25	479.31	500.34	14.78	44.12	43.33
29	26	24.68	15.99	39.19	141.69	42.17
29	27	19.37	279.83	68.22	23.97	12.94
29	28	279.85	40.58	24.99	134.97	41.14
29	29	387.78	424.46	22.50	14.20	22.40
29	30	35.52	302.36	119.29	37.32	9.73
30	0	80.05	106.91	139.66	91.50	133.36
30	1	61.82	38.31	2.18	34.22	2.92
30	2	20.01	16.11	10.85	21.61	11.52
30	3	119.19	52.18	56.72	7.47	59.50
30	4	107.99	51.62	3.15	48.13	2.75
30	5	23.57	10.00	23.12	25.76	4.62
30	6	13.63	6.86	16.20	54.17	39.65
30	7	22.48	18.71	16.46	8.27	38.19
30	8	26.99	16.66	116.58	13.91	114.64
30	9	19.40	17.24	22.45	77.50	9.85
30	10	40.63	106.65	9.94	123.32	16.09
30	11	11.98	3.27	6.30	73.64	11.72
30	12	96.87	68.53	18.70	16.71	62.16
30	13	7.54	9.13	27.98	102.17	58.20

30	14	2.56	5.48	51.66	33.42	43.89
30	15	13.09	77.16	31.31	48.15	97.16
30	16	98.30	87.26	120.35	48.52	69.08
30	17	7.85	8.65	150.80	9.82	40.16
30	18	81.76	58.11	68.12	44.80	66.62
30	19	16.67	16.83	42.95	72.37	105.38
30	20	83.64	77.24	88.04	52.04	13.73
30	21	13.90	45.44	61.34	117.36	44.07
30	22	132.20	165.21	36.14	103.82	22.64
30	23	29.75	15.54	63.21	47.64	60.22
30	24	105.13	58.67	153.33	30.72	140.64
30	25	86.89	171.09	28.48	15.16	82.36
30	26	2.92	5.36	159.94	26.87	166.86
30	27	0.97	159.08	97.73	61.56	54.66
30	28	96.30	16.34	39.14	27.38	119.16
30	29	15.76	93.54	51.93	10.52	252.28
30	30	6.87	151.32	248.65	9.08	87.80

Table S26. The original SOC matrix elements calculated for I-Al(qBr_2)$_3$.

States		SOC elements /cm^{-1}				
Ti	Sj	Conformer 1	Conformer 2	Conformer 3	Conformer 4	Conformer 5
1	0	5.61	2.71	13.89	0.19	7.14
1	1	128.44	57.21	17.70	0.65	0.52
1	2	620.05	88.40	642.61	1.12	655.80
1	3	604.14	71.06	619.27	1.10	666.85
1	4	14.92	9.89	24.83	0.65	26.77
1	5	40.22	4.48	19.57	2.53	7.45
1	6	26.31	16.30	19.99	1.96	10.98
1	7	33.83	4.85	22.29	2.68	5.83
1	8	28.48	3.41	27.47	2.16	1.47
1	9	37.98	0.29	30.00	2.21	33.10
1	10	63.27	1.66	38.10	1.27	0.79
1	11	0.49	3.85	4.30	2.10	0.94
1	12	9.43	1.71	2.07	2.39	2.68
1	13	16.43	0.39	5.63	1.02	41.66
1	14	2.64	6.14	8.63	1.67	128.11
1	15	2.83	0.37	4.25	1.68	2.35
1	16	46.26	0.63	41.65	1.04	28.74
1	17	16.69	0.96	3.43	0.42	59.01
1	18	70.56	1.56	14.62	0.12	0.60
1	19	2.95	0.82	36.93	3.34	1.48
1	20	1.61	1.65	16.50	0.04	0.93

1	21	2.66	1.22	157.77	1.54	1.14
1	22	3.04	5.06	23.34	0.38	4.93
1	23	0.85	18.55	6.42	0.75	140.81
1	24	1.71	3.29	1.73	0.08	8.70
1	25	2.02	1.23	14.89	0.04	1.99
1	26	4.38	0.31	88.29	0.55	0.76
1	27	0.68	0.30	4.44	0.07	2.03
1	28	2.32	1.14	2.04	0.02	2.91
1	29	5.66	12.57	5.98	0.01	0.85
1	30	119.27	10.84	8.26	0.09	68.03
2	0	14.75	15.93	16.95	7.81	1.10
2	1	629.83	3.42	649.98	38.45	655.34
2	2	148.76	650.03	25.57	35.65	0.88
2	3	474.60	558.43	510.75	27.13	442.51
2	4	12.20	21.14	30.99	3.54	16.05
2	5	31.82	22.96	13.91	3.37	4.44
2	6	25.55	112.53	39.86	2.03	7.01
2	7	21.15	29.38	30.94	0.23	1.69
2	8	15.74	4.27	17.94	1.96	2.70
2	9	20.91	10.61	46.72	2.30	12.04
2	10	91.34	2.84	40.79	2.14	1.79
2	11	0.74	12.37	2.90	2.31	0.47
2	12	10.58	18.63	2.43	2.62	1.86
2	13	22.95	2.22	6.54	2.11	23.29
2	14	0.86	17.74	2.97	1.00	70.59
2	15	4.41	2.32	1.55	1.64	0.55
2	16	54.08	3.71	8.09	1.78	14.75
2	17	19.50	3.98	3.77	1.17	28.03
2	18	84.05	4.80	6.97	0.36	0.54
2	19	4.33	3.48	5.78	0.27	1.60
2	20	0.46	2.04	1.57	0.90	0.54
2	21	0.39	9.82	11.00	0.73	1.11
2	22	1.35	45.43	4.33	0.45	6.89
2	23	1.38	161.39	0.38	0.50	89.34
2	24	2.11	26.02	2.06	0.41	5.40
2	25	2.91	4.81	13.30	0.48	1.25
2	26	6.14	2.89	74.94	0.60	1.11
2	27	4.14	1.68	5.71	1.04	0.86
2	28	2.50	4.49	5.04	0.47	6.64
2	29	5.92	76.66	6.42	0.24	5.44
2	30	83.10	62.57	13.96	2.14	130.51
3	0	7.78	12.71	6.12	14.51	2.88
3	1	613.13	629.64	593.55	98.31	666.87
3	2	428.48	16.96	496.18	233.04	442.85

3	3	47.46	514.88	42.30	210.29	0.28
3	4	28.86	28.29	11.30	34.80	7.29
3	5	68.15	17.27	49.42	53.39	23.67
3	6	25.47	78.65	11.67	15.63	28.84
3	7	67.19	7.82	38.69	4.87	6.81
3	8	85.95	11.21	45.89	50.57	2.09
3	9	72.34	2.91	41.91	25.29	25.18
3	10	69.97	4.33	31.94	58.63	0.66
3	11	2.90	14.00	5.66	28.14	1.46
3	12	10.36	9.65	2.49	50.32	2.25
3	13	24.92	1.60	5.09	20.19	33.12
3	14	0.87	7.76	9.15	31.41	107.19
3	15	3.75	2.42	2.77	35.85	1.86
3	16	50.74	2.36	41.93	30.26	24.07
3	17	17.80	6.17	2.91	25.68	57.08
3	18	86.08	2.22	13.30	7.39	0.76
3	19	1.79	6.03	36.12	1.66	1.16
3	20	4.66	1.28	15.11	6.66	1.06
3	21	1.96	2.92	137.46	2.15	0.41
3	32	0.80	19.62	23.50	3.74	6.01
3	23	8.07	64.30	6.11	6.09	29.52
3	24	2.47	12.24	3.59	4.73	1.84
3	25	2.25	7.86	6.10	3.75	0.89
3	26	3.73	4.41	61.01	3.99	0.56
3	27	4.08	2.23	2.27	8.00	0.71
3	28	1.37	6.71	2.17	3.25	7.11
3	29	3.93	81.60	4.90	3.75	6.47
3	30	43.38	66.81	9.02	14.62	134.22
4	0	5.82	5.35	9.61	21.56	10.68
4	1	218.07	174.67	196.90	110.72	26.99
4	2	159.71	41.47	148.25	552.03	16.22
4	3	120.38	139.75	69.84	587.89	7.83
4	4	9.56	26.56	39.19	156.25	5.99
4	5	356.95	12.42	297.18	20.70	649.76
4	6	20.62	27.01	52.74	17.48	647.95
4	7	126.01	8.42	281.57	6.87	167.75
4	8	296.67	6.88	59.57	25.08	16.51
4	9	106.32	1.48	89.31	51.53	5.10
4	10	20.17	1.58	7.57	17.76	26.78
4	11	1.73	5.66	14.30	26.41	32.14
4	12	12.79	2.72	0.97	15.18	2.36
4	13	5.94	0.53	1.19	38.23	4.66
4	14	1.70	2.93	3.60	16.74	12.61
4	15	2.28	0.61	2.57	39.88	1.25

4	16	14.60	0.91	9.41	7.16	0.82
4	17	3.19	1.92	1.26	50.31	13.22
4	18	19.10	1.54	2.98	77.00	1.80
4	19	1.66	2.30	9.58	6.42	2.16
4	20	7.81	1.34	3.90	34.89	0.91
4	21	3.03	0.89	47.31	0.34	3.85
4	42	3.27	6.62	11.38	18.37	141.04
4	23	23.73	21.64	2.56	15.06	9.49
4	24	1.47	3.99	6.97	27.45	2.24
4	25	1.05	2.53	6.27	19.16	10.40
4	26	2.42	1.04	22.08	6.78	1.39
4	27	2.11	0.54	4.91	3.71	2.84
4	28	3.24	1.96	2.85	12.09	5.23
4	29	6.56	21.51	6.80	18.59	7.75
4	30	17.40	17.34	14.35	88.05	6.55
5	0	6.81	5.36	12.85	53.51	5.90
5	1	69.00	89.51	60.30	585.51	5.23
5	2	66.11	77.77	59.11	105.23	3.82
5	3	60.89	34.82	27.93	431.42	19.12
5	4	41.81	30.28	18.99	93.81	501.54
5	5	504.22	15.70	577.14	23.65	30.21
5	6	167.05	9.03	192.33	51.25	330.31
5	7	177.77	27.24	525.97	39.86	97.04
5	8	396.12	49.26	109.47	54.83	146.42
5	9	176.19	31.41	25.13	17.00	1.90
5	10	5.80	36.31	5.96	34.93	127.06
5	11	1.37	2.05	31.39	10.92	11.69
5	12	10.59	2.37	1.61	11.34	1.05
5	13	2.24	4.95	5.64	23.36	1.19
5	14	1.59	0.83	2.35	37.06	6.24
5	15	2.09	1.10	3.83	68.32	1.00
5	16	3.44	4.24	9.30	36.49	1.25
5	17	6.33	0.30	2.51	65.14	6.88
5	18	3.15	2.60	4.45	72.31	2.55
5	19	2.93	2.65	9.71	4.32	5.12
5	20	9.66	1.10	2.45	17.02	1.34
5	21	3.18	3.00	21.35	2.25	2.20
5	22	2.98	6.53	7.37	47.66	68.39
5	23	37.12	21.40	1.27	20.67	4.49
5	24	2.91	3.36	7.75	18.54	3.07
5	25	0.68	1.35	4.19	8.34	5.54
5	26	3.94	1.24	16.29	5.35	0.58
5	27	3.42	1.59	4.65	8.72	4.17
5	28	3.83	0.73	3.72	10.56	5.77

5	29	2.55	7.67	10.25	12.89	2.44
5	30	8.74	6.22	26.19	90.17	3.92
6	0	11.70	15.47	1.16	67.22	2.57
6	1	36.52	556.39	4.86	571.88	6.62
6	2	26.48	528.31	3.69	454.79	2.80
6	3	15.93	6.18	0.73	81.94	14.75
6	4	620.05	8.69	11.52	116.52	410.73
6	5	22.08	17.25	25.48	28.68	24.00
6	6	110.30	58.30	16.87	77.77	274.22
6	7	123.52	18.73	21.36	59.97	67.49
6	8	575.40	8.13	33.47	39.13	71.86
6	9	37.37	9.81	30.12	38.62	2.60
6	10	16.28	8.17	3.44	29.19	71.08
6	11	8.97	5.59	1.95	22.86	6.54
6	12	97.74	12.68	0.10	31.64	0.59
6	13	18.46	1.44	1.75	25.25	2.26
6	14	2.47	3.74	0.75	34.13	3.31
6	15	13.79	1.28	0.15	82.68	0.70
6	16	21.28	1.42	2.24	29.47	0.73
6	17	12.45	3.11	0.13	95.66	5.18
6	18	6.75	3.77	0.90	88.57	1.69
6	19	5.83	4.08	1.09	6.15	0.92
6	20	44.07	1.00	0.24	24.71	1.46
6	21	9.79	4.71	1.62	4.88	1.45
6	22	5.38	38.23	0.54	73.45	45.08
6	23	101.36	125.13	0.88	32.09	2.28
6	24	4.57	20.74	0.58	22.52	1.03
6	25	2.21	1.97	0.58	28.45	3.31
6	26	9.43	2.30	1.98	9.61	0.24
6	27	2.42	1.82	0.27	5.41	1.30
6	28	6.52	4.50	0.12	6.60	1.31
6	29	14.20	65.07	0.41	13.37	1.74
6	30	6.33	54.21	0.84	89.55	1.69
7	0	1.28	43.76	3.91	220.40	1.65
7	1	8.51	21.89	6.07	192.79	4.79
7	2	3.68	25.98	6.57	136.62	2.11
7	3	6.37	9.48	0.95	94.92	2.33
7	4	48.98	8.92	80.16	46.15	12.43
7	5	6.50	648.41	90.65	43.98	7.92
7	6	12.16	140.19	23.64	157.40	5.44
7	7	13.58	511.88	74.19	130.69	1.89
7	8	40.69	237.72	14.52	85.55	4.48
7	9	17.41	53.65	15.81	105.59	1.30
7	10	4.71	34.12	0.94	115.97	3.91

7	11	0.79	118.12	6.34	69.59	1.07
7	12	8.09	6.08	0.37	92.24	0.09
7	13	1.63	7.52	1.53	100.75	0.57
7	14	0.13	6.91	1.01	139.33	1.28
7	15	0.85	3.16	0.58	344.10	0.05
7	16	0.32	33.25	0.81	94.83	1.04
7	17	2.23	14.58	0.33	423.55	4.04
7	18	0.94	15.32	2.07	448.21	0.08
7	19	0.44	10.92	2.82	26.10	0.17
7	20	3.48	16.54	0.73	79.72	0.03
7	21	0.74	23.37	2.96	11.29	0.09
7	22	0.30	20.38	1.00	204.60	2.52
7	23	8.02	6.57	1.70	96.54	0.44
7	24	0.35	14.30	1.35	59.89	0.13
7	25	0.25	11.30	1.12	52.40	1.47
7	26	0.44	4.90	0.73	31.98	0.07
7	27	0.14	6.08	0.83	8.30	0.16
7	28	1.15	3.40	0.85	61.33	0.26
7	29	0.42	14.99	1.69	34.00	0.29
7	30	1.67	8.40	4.28	49.69	0.99
8	0	1.51	16.20	25.36	202.97	15.19
8	1	8.23	32.47	32.60	55.61	1.20
8	2	6.50	19.63	15.84	42.11	1.41
8	3	5.92	24.43	42.18	13.31	3.58
8	4	38.52	654.12	646.97	11.16	83.80
8	5	25.10	11.61	10.82	107.24	31.12
8	6	12.23	86.19	167.30	191.29	56.07
8	7	41.08	482.80	471.15	150.85	38.65
8	8	37.66	188.95	75.84	155.05	605.07
8	9	40.56	29.05	102.22	113.16	9.21
8	10	2.11	38.61	11.29	199.31	588.18
8	11	0.73	83.00	33.64	153.57	3.00
8	12	7.20	2.46	4.87	237.03	6.64
8	13	2.18	8.31	6.47	86.69	12.21
8	14	0.51	3.68	2.53	88.90	4.82
8	15	1.30	2.76	2.27	166.62	4.72
8	16	4.50	4.57	3.05	166.46	7.77
8	17	1.59	9.04	4.19	153.16	2.64
8	18	1.65	9.09	12.06	148.97	7.83
8	19	0.73	6.59	11.39	12.66	11.79
8	20	3.66	3.74	4.24	303.08	3.11
8	21	0.91	3.44	3.93	35.61	10.95
8	22	0.57	6.31	10.31	261.51	9.10
8	23	6.60	3.06	0.82	61.28	0.88

8	24	0.29	8.67	2.43	228.86	5.12
8	25	0.64	8.26	6.34	201.09	1.52
8	26	1.37	3.62	10.95	27.01	2.35
8	27	0.24	1.66	8.62	22.33	14.06
8	28	1.24	2.70	3.74	8.30	15.95
8	29	2.81	13.11	3.96	69.64	5.34
8	30	1.60	11.05	1.50	17.77	4.36
9	0	9.35	118.57	25.76	248.86	6.69
9	1	30.14	14.16	10.25	42.43	10.76
9	2	29.39	19.45	35.67	34.88	6.38
9	3	28.14	7.90	10.95	12.71	29.09
9	4	131.45	292.62	164.57	10.45	664.90
9	5	77.99	272.28	137.12	84.72	439.43
9	6	12.94	44.88	7.42	145.19	16.86
9	7	590.18	54.92	66.23	98.26	53.43
9	8	100.28	45.97	613.91	66.17	41.81
9	9	592.82	492.85	596.44	53.17	2.53
9	10	13.25	428.37	26.08	71.96	34.84
9	11	4.04	43.52	14.06	49.02	25.00
9	12	13.91	19.12	3.70	157.59	0.43
9	13	2.65	67.38	2.49	13.30	3.96
9	14	6.84	16.23	6.13	134.22	12.32
9	15	7.23	27.33	5.73	68.42	0.64
9	16	52.09	215.44	33.97	141.90	1.17
9	17	37.27	86.26	1.51	105.13	10.94
9	18	23.81	38.95	17.17	294.30	2.45
9	19	7.23	77.39	13.07	12.58	2.32
9	20	5.45	45.23	4.71	323.60	1.79
9	21	7.46	105.65	26.08	20.64	2.46
9	22	9.82	69.44	13.90	281.84	121.05
9	23	16.62	20.79	1.00	98.73	6.71
9	24	3.24	27.86	14.48	154.32	3.08
9	25	2.80	26.90	11.66	415.29	11.88
9	26	10.48	21.97	15.73	38.81	0.71
9	27	1.85	26.44	8.14	18.80	1.01
9	28	9.30	12.90	5.77	77.10	6.75
9	29	28.61	13.15	14.61	18.87	7.52
9	30	14.88	13.93	16.60	17.59	2.07
10	0	24.52	30.93	13.03	165.72	4.56
10	1	30.63	111.26	18.66	89.73	35.22
10	2	27.30	75.88	25.06	84.83	12.65
10	3	28.77	57.08	21.51	82.50	23.44
10	4	110.94	69.49	605.94	2.98	47.23
10	5	160.25	20.86	478.56	71.61	12.54

10	6	610.47	9.98	73.45	35.32	47.53
10	7	20.30	43.89	11.85	35.23	196.12
10	8	84.19	22.58	176.67	55.92	65.67
10	9	457.75	147.30	176.86	42.06	1.15
10	10	23.81	123.84	10.84	24.61	187.71
10	11	3.34	9.79	26.54	29.49	1.93
10	12	17.59	6.27	2.38	92.83	2.62
10	13	4.62	18.12	4.51	47.07	7.91
10	14	4.21	7.56	4.48	149.87	4.94
10	15	7.52	7.63	3.40	52.57	1.94
10	16	58.67	69.06	10.70	30.62	2.62
10	17	42.16	30.06	2.66	86.47	1.94
10	18	26.53	12.85	8.99	62.61	6.88
10	19	8.99	24.35	14.20	12.13	1.09
10	20	6.72	13.31	3.22	262.60	2.77
10	21	6.28	32.96	14.59	7.11	1.67
10	22	5.60	22.73	7.74	126.27	7.15
10	23	19.46	15.51	1.90	32.63	4.76
10	24	2.40	10.88	7.68	244.48	0.21
10	25	3.67	8.88	1.94	171.45	2.46
10	26	21.45	7.88	4.54	16.58	2.02
10	27	9.49	8.22	3.84	10.58	3.56
10	28	11.05	5.14	6.32	24.33	6.00
10	29	30.76	19.90	11.41	48.22	2.68
10	30	13.60	19.28	25.77	6.27	5.76
11	0	13.91	72.18	26.24	257.70	11.62
11	1	13.67	15.79	42.56	29.08	12.84
11	2	8.65	9.11	20.58	17.15	7.32
11	3	37.23	14.90	45.96	21.11	9.39
11	4	509.32	494.90	105.91	13.45	42.61
11	5	569.01	444.47	76.95	115.46	71.02
11	6	113.61	71.16	609.24	416.84	141.17
11	7	88.73	21.06	208.62	351.67	575.18
11	8	1.21	17.61	6.85	32.00	45.49
11	9	64.46	311.90	496.74	40.09	9.07
11	10	10.31	246.05	19.87	20.06	477.49
11	11	10.52	50.60	11.14	64.11	1.66
11	12	61.28	11.41	6.86	243.91	6.88
11	13	12.39	26.70	0.57	118.02	16.90
11	14	2.65	11.05	4.30	198.10	5.92
11	15	9.24	14.25	2.84	268.34	4.68
11	16	18.33	156.91	36.21	93.15	9.94
11	17	14.97	74.74	7.71	315.81	1.66
11	18	5.38	29.79	16.34	150.78	19.33

11	19	3.40	59.29	6.29	37.15	3.24
11	20	34.28	27.71	8.15	123.32	5.72
11	21	7.51	72.78	4.42	4.05	4.85
11	22	1.98	51.61	14.32	222.37	10.11
11	23	79.47	14.62	0.25	90.69	1.82
11	24	3.89	20.50	3.24	155.39	0.66
11	25	0.85	23.50	7.39	112.60	3.33
11	26	3.16	19.93	15.04	21.33	2.09
11	27	5.11	15.41	12.76	13.27	8.65
11	28	5.74	11.08	10.21	73.80	15.98
11	29	12.90	14.02	8.16	26.81	7.25
11	30	2.61	6.76	8.23	3.99	9.17
12	0	13.41	27.10	11.41	56.49	5.92
12	1	18.48	13.84	23.42	21.84	20.56
12	2	11.88	3.79	41.51	17.45	6.90
12	3	38.41	12.16	22.73	9.00	17.01
12	4	86.93	20.01	26.23	25.01	19.45
12	5	68.16	20.76	79.92	188.46	10.67
12	6	628.80	47.28	594.67	124.80	27.98
12	7	458.86	229.14	201.40	62.21	76.28
12	8	58.12	602.41	502.40	346.58	63.69
12	9	9.29	52.95	7.08	279.90	1.12
12	10	18.75	502.15	14.99	185.98	2.45
12	11	12.51	23.74	3.48	225.81	1.57
12	12	10.87	20.42	9.91	352.88	1.13
12	13	4.22	15.63	0.47	201.97	1.18
12	14	2.65	9.20	8.31	261.69	4.06
12	15	11.03	17.23	9.26	239.37	0.50
12	16	53.77	136.14	45.69	8.84	3.14
12	17	37.51	104.70	6.45	211.49	3.85
12	18	19.86	54.47	17.02	165.01	2.01
12	19	7.89	99.88	16.81	134.86	1.16
12	20	4.04	31.38	3.67	120.65	0.70
12	21	4.96	64.81	22.13	75.30	1.01
12	22	6.07	39.44	9.18	52.38	1.98
12	23	10.07	12.11	0.19	11.32	4.57
12	24	1.33	12.83	13.78	71.41	0.49
12	25	3.67	32.11	8.05	39.13	1.39
12	26	12.43	39.43	3.58	21.06	0.79
12	27	9.55	21.04	7.80	20.62	0.63
12	28	13.23	8.23	9.54	26.87	2.36
12	29	36.54	8.23	13.68	29.70	0.37
12	30	6.88	9.57	20.35	1.99	5.27
13	0	253.06	203.19	240.76	57.27	21.90

13	1	6.80	3.88	3.79	10.77	2.53
13	2	11.83	4.20	6.81	13.91	2.75
13	3	11.43	3.26	8.01	13.30	2.03
13	4	6.30	15.44	3.00	11.78	16.68
13	5	5.48	27.80	3.98	49.23	52.26
13	6	18.03	23.15	4.45	66.65	146.11
13	7	7.58	98.56	6.23	25.68	602.92
13	8	9.29	195.67	9.54	35.08	489.40
13	9	16.97	330.33	16.72	29.14	3.37
13	10	2.22	308.76	0.67	226.71	12.01
13	11	251.29	16.22	7.24	377.74	2.60
13	12	26.17	10.83	203.70	164.49	8.49
13	13	4.20	240.21	1.60	44.18	15.38
13	14	105.47	19.88	12.57	169.84	5.23
13	15	595.16	77.29	144.25	299.99	3.91
13	16	35.19	507.68	39.79	304.93	8.02
13	17	19.16	182.00	508.48	270.31	1.88
13	18	25.89	67.12	338.53	145.25	15.86
13	19	145.45	158.42	108.89	146.96	7.05
13	20	40.75	37.10	332.77	176.07	6.03
13	21	232.60	237.29	46.32	50.03	6.86
13	22	323.02	162.25	152.89	46.71	11.14
13	23	5.81	47.43	2.42	52.95	0.71
13	24	14.43	66.14	176.08	122.36	2.98
13	25	58.06	76.50	223.26	68.59	3.26
13	26	329.99	49.36	17.67	34.47	2.31
13	27	30.50	32.09	65.99	40.02	4.55
13	28	10.62	34.84	111.91	10.70	17.62
13	29	5.37	18.33	167.83	29.11	1.29
13	30	3.26	20.69	27.15	3.48	5.95
14	0	31.17	181.15	14.30	95.67	261.19
14	1	59.60	2.05	21.27	28.60	1.01
14	2	50.87	2.79	19.44	24.78	0.69
14	3	51.28	3.77	17.73	21.08	0.26
14	4	7.86	11.62	19.97	34.20	3.24
14	5	55.25	17.92	25.33	441.82	2.87
14	6	45.95	18.74	47.70	59.39	4.56
14	7	72.15	96.45	28.41	64.17	21.31
14	8	38.23	219.38	48.00	57.51	11.60
14	9	63.48	213.52	31.93	39.19	0.45
14	10	1.50	65.24	1.39	122.91	16.21
14	11	36.01	4.18	1.66	186.20	0.82
14	12	4.78	6.90	11.44	229.94	223.41
14	13	3.59	136.46	3.84	110.09	28.85

14	14	13.56	6.53	4.27	167.46	2.92
14	15	78.99	248.40	8.63	209.86	130.28
14	16	4.31	187.11	3.30	117.39	11.21
14	17	6.01	293.50	33.24	190.73	9.69
14	18	5.49	37.43	17.85	37.60	525.69
14	19	16.44	303.21	5.62	12.04	314.63
14	20	6.89	158.56	22.21	127.53	70.53
14	21	30.19	260.44	8.00	4.31	171.82
14	22	41.39	241.50	9.50	52.61	8.28
14	23	1.92	68.40	1.15	49.63	5.90
14	24	1.84	8.00	10.47	92.28	45.94
14	25	7.84	295.38	14.40	86.83	4.53
14	26	44.51	162.22	32.74	50.52	128.03
14	27	5.61	29.19	5.84	25.23	331.40
14	28	2.34	37.25	7.37	20.61	178.35
14	29	1.80	20.96	9.95	43.98	31.95
14	30	11.05	26.93	4.40	6.85	2.57
15	0	228.63	162.68	221.78	86.64	4.42
15	1	4.02	3.26	2.59	54.27	5.34
15	2	2.19	4.21	1.07	45.08	3.05
15	3	2.26	3.77	2.62	48.37	4.00
15	4	2.84	9.82	3.65	17.31	27.17
15	5	3.51	24.35	0.77	298.15	10.70
15	6	8.87	35.37	3.96	92.88	20.90
15	7	9.14	182.60	3.37	127.36	8.06
15	8	2.21	429.55	3.25	87.33	7.12
15	9	4.81	444.11	6.88	56.48	0.67
15	10	2.40	34.43	2.30	88.41	7.25
15	11	150.58	8.26	11.94	132.14	0.22
15	12	15.74	11.35	242.94	192.82	0.42
15	13	1.95	44.34	1.33	73.66	0.88
15	14	294.49	18.44	10.35	121.72	1.01
15	15	128.80	169.33	313.83	66.75	0.22
15	16	7.59	253.27	13.49	165.34	0.87
15	17	7.10	26.47	140.01	29.81	0.76
15	18	3.64	36.41	128.47	74.60	0.26
15	19	102.59	67.14	45.31	77.67	0.17
15	20	73.70	93.97	378.63	166.19	0.37
15	21	513.80	259.01	36.42	21.66	0.95
15	22	287.42	250.13	224.59	62.58	3.56
15	23	8.74	66.40	9.80	21.28	0.97
15	24	39.42	53.25	269.68	126.81	0.43
15	25	89.51	160.36	327.92	92.43	1.60
15	26	227.35	73.52	40.64	8.15	0.24

15	27	397.40	46.23	154.10	12.78	1.01
15	28	8.39	12.35	221.64	14.42	0.83
15	29	2.77	25.20	143.54	39.88	0.90
15	30	9.52	32.28	54.69	8.23	1.61
16	0	220.92	128.53	187.80	151.36	275.99
16	1	8.06	6.04	14.37	12.04	0.67
16	2	12.19	4.58	7.25	6.34	1.30
16	3	11.61	1.54	11.93	10.16	0.42
16	4	0.90	60.52	16.83	11.20	0.53
16	5	16.93	43.64	5.30	173.60	0.99
16	6	12.02	12.86	39.86	378.47	3.00
16	7	21.03	48.22	13.74	245.74	14.41
16	8	12.78	109.32	17.37	75.31	8.88
16	9	22.89	116.36	33.13	55.51	1.10
16	10	1.72	58.65	0.90	113.24	2.53
16	11	247.64	4.41	20.92	45.65	2.16
16	12	16.11	15.31	301.96	212.03	169.76
16	13	1.09	503.97	0.78	61.19	26.19
16	14	151.49	21.22	5.07	194.95	5.08
16	15	27.46	179.85	102.40	296.03	273.02
16	16	2.95	472.56	1.90	198.16	12.06
16	17	15.76	110.97	62.94	167.48	8.97
16	18	16.29	45.21	287.56	89.78	99.89
16	19	322.29	35.95	45.90	99.77	53.55
16	20	49.26	17.24	298.01	269.52	310.98
16	21	201.61	125.63	103.71	24.06	475.86
16	22	365.22	149.55	416.86	114.55	14.85
16	23	10.26	44.10	5.07	24.87	2.10
16	24	12.50	50.03	169.37	177.97	56.78
16	25	36.91	86.84	107.89	142.37	9.56
16	26	241.41	29.10	12.42	23.23	89.40
16	27	251.32	66.02	263.33	8.66	319.79
16	28	9.76	43.85	132.04	23.20	177.50
16	29	4.92	24.76	145.94	60.15	303.11
16	30	1.13	29.49	27.15	10.90	13.18
17	0	202.05	63.55	168.91	96.16	243.93
17	1	3.33	8.79	2.41	13.31	2.60
17	2	2.34	12.13	2.86	13.55	2.23
17	3	1.02	7.69	2.74	14.18	2.19
17	4	3.08	90.85	4.25	33.61	5.61
17	5	5.59	61.92	4.47	459.42	6.03
17	6	9.88	23.26	8.01	235.16	5.36
17	7	9.12	77.59	3.60	357.03	13.42
17	8	2.41	105.78	7.93	173.36	32.51

17	9	3.91	113.97	4.12	138.35	0.45
17	10	1.02	16.23	2.30	151.67	22.61
17	11	610.22	2.71	29.25	13.72	0.44
17	12	54.34	7.24	534.72	97.40	120.11
17	13	4.78	267.24	1.42	66.56	18.08
17	14	255.39	11.17	10.55	66.04	2.19
17	15	517.67	101.85	320.66	95.93	83.63
17	16	33.74	241.15	39.14	82.47	14.19
17	17	6.35	78.64	476.86	168.34	6.06
17	18	17.13	33.43	266.65	268.76	96.34
17	19	131.40	30.28	100.56	56.07	244.57
17	20	33.56	7.84	113.41	92.54	96.53
17	21	84.65	61.76	35.35	29.99	149.34
17	22	162.85	70.15	173.84	175.62	2.65
17	23	0.90	17.45	6.16	66.98	5.19
17	24	25.53	17.11	181.24	74.18	148.14
17	25	41.21	44.28	138.88	123.42	1.91
17	26	201.19	32.80	16.46	42.82	28.66
17	27	91.27	36.19	47.84	23.52	318.38
17	28	4.41	27.27	79.52	32.10	201.55
17	29	3.47	11.02	98.38	39.97	184.43
17	30	2.96	16.96	20.81	12.25	14.87
18	0	5.46	178.08	4.16	166.79	225.64
18	1	22.31	13.63	1.37	10.05	0.42
18	2	20.65	6.36	0.65	7.91	0.23
18	3	26.78	9.48	1.39	16.82	0.49
18	4	4.17	19.80	31.11	19.16	0.97
18	5	22.64	7.04	30.64	204.43	0.97
18	6	2.17	5.40	23.50	370.61	0.66
18	7	3.59	34.52	21.73	200.54	4.52
18	8	14.88	84.21	22.34	172.30	3.60
18	9	2.60	35.04	11.73	141.30	0.55
18	10	3.57	68.92	1.27	90.74	2.04
18	11	1.53	6.20	0.87	37.48	2.43
18	12	0.36	11.65	3.70	170.15	548.74
18	13	0.29	257.69	0.42	76.32	72.90
18	14	0.73	10.28	0.82	217.92	6.48
18	15	0.13	182.86	3.72	128.74	378.05
18	16	2.22	37.88	1.17	241.52	11.00
18	17	1.85	382.72	1.35	226.34	6.01
18	18	3.17	159.69	0.57	173.77	480.39
18	19	0.97	329.96	2.78	39.27	265.09
18	20	0.37	69.04	4.08	245.84	121.91
18	21	0.88	167.01	0.87	35.16	101.30

18	22	0.84	156.43	2.86	224.81	6.06
18	23	1.37	47.00	4.66	91.65	3.51
18	24	0.29	92.60	0.72	126.05	51.45
18	25	0.25	260.26	0.39	132.07	2.39
18	26	0.24	216.92	0.45	31.14	48.20
18	27	0.24	39.02	2.18	10.06	163.25
18	28	0.55	51.29	1.01	18.43	84.82
18	29	1.48	19.02	1.63	45.60	40.22
18	30	4.36	27.93	1.60	6.03	2.22
19	0	16.74	275.31	177.00	281.18	309.74
19	1	9.24	2.53	1.43	5.49	6.61
19	2	7.10	1.97	2.39	2.14	3.04
19	3	8.67	1.69	2.62	11.00	5.85
19	4	18.52	1.92	0.79	9.43	0.43
19	5	88.87	3.19	4.40	107.21	0.57
19	6	47.13	1.96	4.47	159.58	2.04
19	7	46.01	6.34	4.70	143.83	5.50
19	8	61.26	12.57	6.97	71.56	3.59
19	9	39.79	12.31	4.37	57.43	1.24
19	10	1.15	2.34	1.44	70.65	2.64
19	11	9.23	5.64	12.02	64.48	3.26
19	12	1.87	7.42	267.73	302.79	383.33
19	13	0.11	223.91	1.64	74.15	48.74
19	14	21.70	29.10	7.53	390.69	10.87
19	15	6.02	585.63	23.82	198.73	547.49
19	16	0.60	44.39	28.68	337.82	23.40
19	17	0.77	386.24	294.64	160.70	4.44
19	18	0.90	125.35	429.60	218.48	140.82
19	19	24.07	330.51	101.71	37.02	141.16
19	20	5.18	155.35	155.98	204.43	261.87
19	21	15.66	262.05	102.26	16.46	426.82
19	22	9.61	198.97	435.63	387.02	14.85
19	23	6.65	45.19	9.18	120.07	2.56
19	24	0.84	38.88	316.19	205.94	16.01
19	25	2.96	270.95	245.30	190.12	10.74
19	26	7.66	71.22	25.20	28.93	79.41
19	27	16.39	13.80	232.26	10.55	116.81
19	28	5.03	42.38	155.61	69.56	147.07
19	29	3.12	12.00	60.43	13.63	221.00
19	30	1.29	17.00	39.07	5.72	10.82
20	0	280.72	250.79	323.17	106.76	13.92
20	1	2.05	0.64	1.35	10.13	147.24
20	2	5.97	6.86	2.48	17.61	78.78
20	3	2.53	0.53	1.33	9.53	124.94

20	4	1.99	7.24	4.03	16.23	13.55
20	5	5.89	7.09	2.89	252.48	7.01
20	6	7.10	2.73	4.64	363.72	13.22
20	7	6.55	20.49	0.88	314.23	3.17
20	8	3.79	47.27	3.76	237.33	1.72
20	9	3.88	8.04	3.83	183.24	4.29
20	10	2.27	4.50	3.06	66.36	1.85
20	11	362.58	4.54	19.92	153.44	0.92
20	12	25.13	3.28	341.70	111.07	17.10
20	13	2.63	395.65	1.44	82.45	2.29
20	14	517.88	10.58	7.85	183.66	2.17
20	15	91.19	120.79	534.41	102.29	25.12
20	16	8.94	62.84	13.03	274.52	1.27
20	17	9.10	286.66	145.63	86.11	7.44
20	18	14.21	105.61	183.82	142.84	4.70
20	19	279.57	183.16	29.77	119.70	1.54
20	20	38.08	38.35	420.14	208.33	13.41
20	21	412.91	324.71	32.36	58.87	20.09
20	22	74.63	354.41	173.42	95.32	4.07
20	23	6.06	112.56	11.29	59.08	23.17
20	24	17.14	180.07	280.01	75.87	3.01
20	25	50.79	389.59	258.25	32.82	1.06
20	26	149.11	357.89	33.18	28.32	3.76
20	27	367.58	38.24	184.36	12.25	8.58
20	28	5.43	71.20	151.69	41.62	6.59
20	29	3.22	14.71	120.05	22.09	9.13
20	30	5.39	18.61	42.65	7.05	37.13
21	0	218.28	275.40	6.22	136.87	201.82
21	1	11.25	2.28	5.26	14.31	0.67
21	2	7.81	6.95	6.53	15.31	0.73
21	3	10.77	1.80	4.96	20.53	0.43
21	4	3.56	4.94	4.43	23.95	1.89
21	5	2.82	5.63	3.59	210.19	1.86
21	6	6.83	2.25	8.25	196.85	1.40
21	7	5.49	11.38	3.29	445.84	1.88
21	8	2.77	30.36	8.75	96.55	10.65
21	9	7.95	18.21	4.65	88.68	0.62
21	10	1.67	9.96	3.49	283.83	2.95
21	11	401.32	7.73	1.08	293.69	2.81
21	12	39.97	13.48	10.51	134.27	448.95
21	13	4.14	547.72	0.60	23.71	54.16
21	14	146.34	19.13	1.51	197.69	2.30
21	15	78.31	346.60	10.75	69.03	160.72
21	16	15.79	170.62	0.23	75.72	7.77

21	17	12.67	222.48	2.35	41.54	0.75
21	18	15.79	87.88	5.09	128.29	133.29
21	19	454.52	185.03	0.93	91.20	352.04
21	20	41.91	81.39	9.21	178.03	223.19
21	21	86.50	288.45	5.21	25.59	117.34
21	22	377.30	303.75	10.34	54.13	12.49
21	23	14.53	88.13	1.20	52.40	5.21
21	24	26.40	135.06	9.86	141.96	105.65
21	25	67.49	284.34	7.75	127.90	7.36
21	26	345.84	196.88	9.03	41.73	144.23
21	27	252.67	61.50	6.89	37.41	306.58
21	28	15.75	16.67	4.27	16.78	164.35
21	29	3.35	38.99	1.89	36.98	136.20
21	30	5.34	50.72	1.88	7.31	10.58
22	0	242.10	7.19	216.02	188.23	225.43
22	1	3.09	8.49	2.57	3.70	0.30
22	2	1.71	4.50	3.16	6.21	0.43
22	3	2.89	5.31	0.48	3.71	0.86
22	4	4.51	20.69	2.44	5.28	0.22
22	5	7.29	9.09	3.09	54.11	1.17
22	6	9.45	1.35	3.26	70.82	1.73
22	7	7.79	12.63	1.96	81.27	3.51
22	8	2.24	8.56	3.94	28.87	1.31
22	9	2.80	2.48	3.68	20.93	0.50
22	10	1.39	3.23	1.93	39.79	4.23
22	11	436.10	2.50	25.84	48.33	1.43
22	12	34.20	1.20	520.03	235.99	443.94
22	13	2.52	14.05	1.15	81.50	62.90
22	14	374.72	2.54	10.65	371.75	10.44
22	15	256.11	9.60	370.80	201.04	323.84
22	16	8.48	5.34	34.22	422.38	14.68
22	17	16.52	7.90	201.39	179.37	4.74
22	18	9.98	3.17	184.62	138.79	253.23
22	19	344.73	6.75	10.94	13.15	234.60
22	20	20.97	2.60	136.04	128.98	105.83
22	21	110.99	8.60	23.63	15.52	245.55
22	22	200.61	8.96	164.37	148.70	9.58
22	23	8.16	1.93	8.21	55.90	5.44
22	24	17.81	5.06	276.60	152.20	49.00
22	25	79.88	10.68	370.19	471.40	6.41
22	26	416.92	7.38	39.94	38.89	102.57
22	27	239.34	1.79	176.38	26.72	259.47
22	28	10.87	0.66	132.49	104.98	120.33
22	29	4.78	2.00	182.67	34.41	277.95

22	30	4.29	1.45	35.89	18.89	14.04
23	0	43.84	282.36	303.17	4.61	266.49
23	1	109.95	0.88	3.44	1.26	0.32
23	2	86.80	3.38	2.07	2.92	0.74
23	3	106.28	2.89	2.57	2.63	0.28
23	4	7.00	2.51	3.89	1.21	1.29
23	5	26.19	4.04	1.07	66.49	1.19
23	6	31.24	2.06	5.33	145.19	2.18
23	7	32.91	6.17	4.07	200.71	6.28
23	8	20.69	10.69	2.57	67.59	5.38
23	9	36.69	5.53	6.56	44.85	1.11
23	10	6.74	10.52	3.12	75.41	5.09
23	11	25.60	4.71	16.29	89.92	2.72
23	12	3.37	7.21	250.02	101.84	268.70
23	13	3.61	156.51	1.37	26.79	33.34
23	14	6.57	28.86	8.15	90.18	7.01
23	15	9.38	610.63	614.26	122.39	623.72
23	16	1.65	78.66	17.32	86.40	18.06
23	17	1.47	122.47	133.16	54.06	7.82
23	18	1.99	17.71	47.65	24.77	197.21
23	19	56.16	204.76	34.74	3.24	92.18
23	20	7.29	125.73	285.05	24.85	168.74
23	21	13.37	285.45	34.28	9.59	172.78
23	22	63.55	234.74	141.20	6.40	9.02
23	23	3.80	66.56	5.34	4.90	2.50
23	24	7.11	41.38	161.11	2.20	47.68
23	25	11.75	367.74	223.71	9.02	6.27
23	26	60.97	194.37	30.22	5.20	76.65
23	27	60.26	34.09	158.85	3.03	214.74
23	28	3.33	81.94	190.78	2.93	164.76
23	29	1.53	29.10	177.52	2.70	160.86
23	30	16.67	43.53	47.30	0.77	7.17
24	0	249.34	2.56	82.70	290.19	6.27
24	1	2.34	15.46	158.75	4.31	24.73
24	2	3.18	7.48	1.57	7.75	13.48
24	3	5.54	4.18	146.70	12.26	25.42
24	4	2.74	14.15	19.79	5.37	41.29
24	5	2.81	6.87	3.78	18.50	27.22
24	6	6.93	2.59	37.91	27.59	30.69
24	7	3.83	3.01	23.48	36.82	7.44
24	8	2.38	4.32	7.44	10.51	1.43
24	9	5.83	2.86	43.09	9.82	2.75
24	10	2.57	1.49	14.90	28.19	1.81
24	11	129.42	2.93	3.48	36.07	1.78

24	12	12.17	3.69	23.97	235.44	0.50
24	13	1.84	0.41	3.28	52.42	1.83
24	14	635.24	0.45	3.52	330.76	5.49
24	15	90.11	1.09	24.24	212.50	2.05
24	16	7.47	0.26	14.46	435.47	3.47
24	17	5.85	1.34	125.23	281.72	1.62
24	18	6.24	2.48	181.94	150.36	1.03
24	19	76.06	2.59	22.35	14.78	1.93
24	20	51.69	2.23	63.91	162.11	3.58
24	21	270.58	0.39	32.12	9.12	3.99
24	22	232.38	1.44	135.79	70.34	4.25
24	23	6.59	2.94	2.13	19.71	5.41
24	24	24.01	2.41	114.75	290.89	2.26
24	25	56.99	1.49	28.36	127.96	3.83
24	26	108.76	0.92	20.89	18.70	4.39
24	27	403.57	0.12	91.32	6.37	5.35
24	28	5.79	0.33	56.40	154.08	3.21
24	29	0.97	1.21	20.13	124.27	1.88
24	30	8.02	0.67	9.33	11.23	6.32
25	0	278.24	235.91	250.10	45.96	1.49
25	1	5.46	2.28	60.94	7.64	5.05
25	2	5.06	4.84	3.61	1.71	2.37
25	3	7.79	2.89	53.85	7.25	4.17
25	4	4.75	1.42	8.42	2.59	4.14
25	5	7.78	3.67	2.79	10.01	2.89
25	6	11.96	1.84	12.10	57.32	3.94
25	7	5.31	10.03	7.04	57.83	1.19
25	8	6.17	16.28	8.09	24.17	0.68
25	9	6.54	7.76	11.20	22.67	1.15
25	10	0.36	8.68	6.45	22.12	0.71
25	11	72.05	0.93	6.74	10.85	1.39
25	12	10.24	5.08	79.96	46.00	0.26
25	13	1.58	51.08	1.91	6.05	1.07
25	14	86.54	9.57	6.33	60.98	0.30
25	15	125.70	121.56	54.22	81.40	0.10
25	16	4.38	112.72	36.05	158.89	0.63
25	17	23.78	300.54	339.53	122.26	2.52
25	18	23.67	215.30	504.80	29.14	0.39
25	19	629.06	424.69	71.84	3.09	0.52
25	20	44.43	81.10	110.41	68.69	0.50
25	21	166.63	280.25	64.64	6.81	0.10
25	22	198.74	246.39	260.22	86.33	1.01
25	23	13.30	74.78	6.24	36.81	0.83
25	24	31.19	96.80	288.15	116.15	4.50

25	25	35.22	252.21	48.93	119.58	0.58
25	26	273.97	275.94	15.01	40.70	0.37
25	27	127.57	171.37	181.46	10.69	1.34
25	28	6.89	157.67	92.42	614.20	2.19
25	29	4.53	17.30	74.50	642.92	2.78
25	30	3.16	30.83	30.87	39.54	1.46
26	0	85.09	72.15	4.27	5.52	44.93
26	1	2.99	3.54	1.73	3.58	1.65
26	2	2.28	1.39	0.12	1.09	0.56
26	3	2.80	1.49	1.68	2.58	0.89
26	4	12.75	4.20	1.50	2.61	1.80
26	5	32.89	2.07	0.39	49.50	1.36
26	6	2.49	0.74	0.74	53.33	1.66
26	7	10.37	5.86	1.66	58.62	3.07
26	8	25.14	12.63	0.61	21.47	3.65
26	9	6.95	14.41	0.77	13.58	0.32
26	10	0.96	3.65	0.22	21.52	3.41
26	11	90.20	1.05	3.89	20.41	1.01
26	12	10.02	1.26	0.45	41.48	15.99
26	13	1.14	92.62	0.70	16.85	9.07
26	14	54.99	5.47	0.91	30.06	4.12
26	15	73.54	76.28	0.20	36.96	49.24
26	16	4.71	81.55	1.22	25.12	8.85
26	17	7.48	111.80	0.77	11.24	3.44
26	18	5.00	75.05	2.02	2.69	30.25
26	19	171.12	153.72	3.52	8.95	44.06
26	20	14.04	38.86	0.51	1.81	20.62
26	21	54.57	78.86	0.88	0.52	35.07
26	22	49.90	138.42	0.74	0.97	9.42
26	23	6.95	46.69	0.12	0.81	36.24
26	24	100.77	52.08	1.20	2.64	619.43
26	25	235.35	54.42	0.51	1.21	12.10
26	26	99.06	148.43	0.36	1.03	60.89
26	27	124.09	525.93	1.11	0.81	118.31
26	28	10.48	587.74	1.13	1.83	248.02
26	29	6.06	122.98	1.92	3.39	300.06
26	30	6.14	189.97	0.68	0.56	33.44
27	0	27.68	11.26	166.56	115.67	47.72
27	1	6.08	169.21	11.46	8.94	11.76
27	2	3.71	69.37	1.85	6.49	9.83
27	3	6.65	132.87	12.98	7.15	5.06
27	4	43.69	6.93	3.61	1.52	125.58
27	5	107.99	2.98	0.81	13.07	69.52
27	6	13.19	17.11	6.22	50.62	103.64

27	7	16.00	1.00	1.63	36.52	45.98
27	8	84.27	6.07	1.28	10.88	35.70
27	9	13.38	2.24	2.33	12.30	0.66
27	10	2.10	4.72	2.18	9.72	34.27
27	11	20.81	2.95	1.30	6.98	4.56
27	12	6.70	2.20	57.53	35.71	10.49
27	13	0.93	5.72	0.45	10.50	2.71
27	14	23.07	4.46	2.97	64.03	3.54
27	15	27.87	6.22	67.79	38.07	20.89
27	16	1.56	4.24	15.07	33.81	2.11
27	17	2.91	18.30	76.21	56.26	1.67
27	18	2.39	7.53	152.39	66.51	43.86
27	19	93.96	13.38	21.91	5.15	75.10
27	20	8.83	2.18	72.40	63.21	25.80
27	21	19.00	1.57	19.02	6.84	35.52
27	22	26.55	7.65	100.98	178.29	4.11
27	23	2.67	1.81	0.81	88.14	2.38
27	24	34.82	1.07	174.70	292.07	26.05
27	25	49.23	8.26	143.30	143.36	0.61
27	26	36.32	12.41	26.06	16.29	20.38
27	27	34.49	5.52	147.65	3.36	42.19
27	28	2.89	8.08	238.25	105.89	51.62
27	29	2.45	25.65	269.17	281.69	25.29
27	30	3.02	18.85	101.97	15.27	4.54
28	0	52.71	200.02	85.84	109.97	12.66
28	1	2.52	1.97	5.03	4.12	140.33
28	2	2.67	3.48	1.65	4.67	89.00
28	3	2.93	1.57	4.52	5.12	29.40
28	4	2.18	1.56	1.21	1.08	10.29
28	5	2.10	3.17	3.50	10.12	4.96
28	6	3.20	1.85	16.01	42.22	7.00
28	7	0.62	5.26	6.52	41.39	5.35
28	8	1.63	6.62	3.13	14.24	5.06
28	9	1.52	9.10	17.27	14.72	5.64
28	10	0.81	5.59	2.26	15.22	4.65
28	11	44.42	1.55	6.31	12.60	0.37
28	12	3.52	2.33	88.56	33.63	2.73
28	13	0.79	53.74	0.21	8.94	5.94
28	14	18.75	3.78	2.21	60.59	20.05
28	15	33.97	86.93	33.51	33.47	5.48
28	16	2.27	75.81	11.67	28.73	4.93
28	17	3.13	66.04	88.58	57.57	11.20
28	18	4.38	26.74	226.21	61.63	13.51
28	19	46.80	81.54	31.95	3.71	25.67

28	20	5.88	20.63	92.65	63.45	27.06
28	21	15.21	149.15	26.10	6.49	15.70
28	22	19.71	125.14	104.82	173.82	1.32
28	23	2.58	46.69	9.04	88.40	0.36
28	24	134.75	61.60	271.74	282.51	6.34
28	25	575.59	64.11	194.72	139.62	0.29
28	26	119.66	383.02	15.22	17.04	6.14
28	27	23.16	249.92	293.29	4.94	8.04
28	28	1.93	387.98	327.46	107.52	13.31
28	29	6.98	37.17	257.54	271.23	16.05
28	30	3.82	82.85	74.70	14.81	28.62
29	0	17.33	2.98	11.16	116.70	136.12
29	1	1.90	5.63	45.24	3.95	2.74
29	2	0.74	2.20	38.01	3.49	0.48
29	3	1.89	4.27	31.13	1.53	2.63
29	4	0.85	2.72	2.96	2.23	23.26
29	5	1.64	0.93	4.52	29.32	12.87
29	6	2.47	0.56	5.35	43.59	19.41
29	7	4.77	1.43	1.17	39.21	4.22
29	8	1.40	2.54	7.12	13.06	5.87
29	9	4.23	1.68	0.88	12.22	0.52
29	10	0.39	1.43	25.95	15.89	6.64
29	11	19.76	0.34	2.10	8.51	0.61
29	12	1.72	0.41	26.30	18.94	61.09
29	13	0.61	1.06	4.33	6.01	10.78
29	14	9.94	0.28	4.36	30.93	3.64
29	15	23.22	1.35	21.23	25.03	77.39
29	16	3.86	1.22	7.35	63.57	8.55
29	17	1.31	5.20	20.40	37.41	4.10
29	18	3.25	1.73	32.25	55.58	188.72
29	19	21.04	3.25	7.17	5.63	350.67
29	20	4.27	0.49	9.82	60.74	329.89
29	21	9.97	2.85	15.49	6.98	202.18
29	22	32.87	2.76	37.76	170.94	8.12
29	23	36.87	0.72	1.22	79.24	3.90
29	24	618.86	1.09	51.74	252.35	77.03
29	25	97.13	2.29	41.43	149.62	3.19
29	26	21.89	8.39	7.00	14.67	58.79
29	27	34.76	6.92	93.67	3.47	93.69
29	28	4.58	7.61	62.18	245.19	268.58
29	29	2.76	12.82	319.26	100.32	99.16
29	30	2.21	15.47	172.44	12.15	17.78
30	0	2.92	117.30	16.39	117.97	109.95
30	1	1.46	2.41	76.99	9.65	8.70

30	2	0.71	3.93	62.38	7.71	5.83
30	3	1.13	2.52	50.75	5.21	0.70
30	4	4.74	2.36	3.73	2.99	23.58
30	5	7.18	4.18	7.84	18.82	12.09
30	6	3.51	1.19	7.93	45.96	20.12
30	7	5.43	3.77	3.52	37.30	4.35
30	8	6.03	8.19	11.09	10.01	8.83
30	9	7.02	4.81	1.29	12.20	0.84
30	10	0.83	5.65	42.88	9.25	8.45
30	11	0.68	0.83	3.54	3.93	0.58
30	12	5.12	1.34	7.40	17.74	31.97
30	13	0.25	15.49	7.32	8.23	2.88
30	14	0.45	1.52	5.89	44.92	1.81
30	15	0.85	18.51	16.45	39.57	55.47
30	16	1.34	21.76	11.24	56.07	4.73
30	17	0.77	75.76	13.17	21.42	3.43
30	18	0.40	8.63	21.76	59.31	149.24
30	19	1.97	41.64	10.30	3.44	299.56
30	20	4.52	6.95	6.76	53.46	370.65
30	21	0.79	140.12	13.92	7.78	216.17
30	22	1.25	177.56	24.37	176.15	8.76
30	23	0.52	67.76	0.61	87.27	4.33
30	24	1.16	93.80	31.62	264.55	71.94
30	25	1.74	46.99	15.82	150.30	5.07
30	26	1.16	473.96	4.12	12.91	66.50
30	27	1.06	409.94	49.01	3.42	79.00
30	28	0.16	213.87	35.30	244.99	231.30
30	29	0.58	98.13	191.23	125.17	241.87
30	30	0.15	132.55	101.49	13.91	14.81

Table S27. The original TDM matrix elements between S_0 and S_n calculated for I-Alq_3.

States		TDM elemnets between S_0 and S_n /debyee				
S_0	S_n	Conformer 1	Conformer 2	Conformer 3	Conformer 4	Conformer 5
0	1	0.21	0.22	0.66	0.29	0.61
0	2	0.05	0.41	0.10	0.39	0.13
0	3	0.35	0.62	0.24	0.27	0.62
0	4	1.04	0.56	0.33	0.60	0.27
0	5	0.67	0.68	0.26	0.51	1.00
0	6	0.73	0.32	0.66	0.29	0.45
0	7	0.61	0.30	0.52	0.57	0.23
0	8	0.58	0.35	0.08	0.61	0.52
0	9	0.45	1.08	0.86	0.44	0.80

0	10	0.09	1.11	0.38	0.54	0.62
0	11	1.30	0.25	0.55	0.24	0.84
0	12	0.66	1.06	0.88	0.81	0.91
0	13	0.80	0.89	0.67	1.19	2.17
0	14	1.34	1.97	1.60	0.69	1.69
0	15	1.59	0.39	0.73	2.56	0.94
0	16	0.27	0.62	1.58	1.31	1.43
0	17	2.23	1.77	0.94	1.56	1.95
0	18	1.67	1.80	1.34	1.07	1.08
0	19	0.30	1.14	1.29	1.09	1.42
0	20	1.71	1.37	2.37	0.84	1.60
0	21	2.12	1.70	1.31	1.18	1.87
0	22	0.83	1.82	1.62	1.53	0.64
0	23	1.19	1.39	0.72	1.94	1.60
0	24	0.46	0.38	0.11	1.05	1.07
0	25	0.35	0.58	1.71	1.38	0.85
0	26	0.56	1.36	1.13	1.28	1.68
0	27	1.10	0.91	0.47	1.35	1.23
0	28	1.01	1.12	1.55	0.33	0.56
0	29	0.33	0.78	0.97	1.69	1.77
0	30	1.75	1.78	1.14	1.22	1.54

Table S28. The original TDM matrix elements between T_i and T_j calculated for I-Alq_3.

States		TDM elements between T_i and T_j /debyee				
Ti	Tj	Conformer 1	Conformer 2	Conformer 3	Conformer 4	Conformer 5
1	1	0.00	0.00	0.00	0.00	0.00
1	2	0.27	0.63	0.00	0.96	0.25
1	3	38.64	0.00	0.27	0.00	44.95
1	4	0.87	0.18	0.18	0.00	0.02
1	5	0.60	0.00	0.04	0.48	0.00
1	6	0.00	0.40	0.05	0.35	0.03
1	7	0.69	0.16	0.22	0.00	0.07
1	8	0.32	0.40	0.73	0.24	0.25
1	9	40.83	0.05	0.39	0.44	0.01
1	10	60.80	0.46	1.85	0.13	0.59
1	11	0.19	0.32	0.70	0.04	0.19
1	12	39.01	0.16	0.01	0.28	0.10
1	13	0.00	0.20	0.43	0.08	0.08
1	14	0.26	0.07	0.25	0.19	0.01
1	15	0.16	0.29	0.18	0.03	0.00
1	16	9.58	0.34	0.80	0.23	15.99
1	17	0.35	0.01	40.28	0.08	84.85

1	18	0.32	24.20	6.80	0.23	0.01
1	19	41.80	0.14	0.00	0.01	0.01
1	20	16.41	0.50	0.00	0.05	0.26
1	21	86.58	0.05	0.11	18.50	0.36
1	22	0.20	0.05	0.06	0.00	0.02
1	23	73.25	0.16	0.00	0.00	0.01
1	24	0.00	0.03	0.00	3.98	0.11
1	25	0.00	0.63	0.07	0.00	0.00
1	26	0.00	2.32	0.50	0.00	1.87
1	27	0.01	0.00	0.08	0.00	0.00
1	28	0.87	0.00	0.00	0.00	0.01
1	29	0.00	0.00	0.00	0.00	0.02
1	30	81.13	1.26	0.00	0.00	0.00
2	2	0.00	0.00	0.00	0.00	0.00
2	3	0.02	0.28	0.42	0.53	83.75
2	4	0.18	0.16	0.33	0.00	0.00
2	5	0.36	0.00	0.01	0.49	0.00
2	6	0.00	103.15	0.30	48.96	0.00
2	7	1.49	33.10	0.05	0.00	0.00
2	8	0.14	119.38	0.01	38.48	0.00
2	9	0.33	0.22	0.01	111.73	0.00
2	10	0.42	59.73	0.23	55.42	1.13
2	11	0.11	32.40	0.07	0.36	0.25
2	12	1.06	1.30	0.01	0.17	0.47
2	13	0.00	24.24	0.07	0.81	0.00
2	14	0.02	0.36	0.06	48.01	0.47
2	15	0.01	20.99	0.03	0.27	0.78
2	16	0.25	1.58	0.01	63.57	121.98
2	17	0.02	0.18	0.04	28.38	0.65
2	18	0.08	2.31	0.20	87.41	0.17
2	19	0.30	0.53	0.00	0.19	0.00
2	20	0.11	1.41	0.00	19.08	30.82
2	21	0.32	0.10	0.00	3.98	21.79
2	22	0.14	0.25	33.98	0.12	0.00
2	23	0.26	0.41	0.00	0.00	0.23
2	24	0.00	0.07	0.00	4.11	0.50
2	25	0.00	4.78	0.06	0.11	0.00
2	26	0.00	5.71	2.14	0.00	143.45
2	27	0.34	0.03	0.09	0.00	0.00
2	28	29.75	0.00	0.00	0.00	0.00
2	29	0.00	0.04	0.00	0.00	0.00
2	30	0.05	0.33	0.05	0.07	0.00
3	3	0.00	0.00	0.00	0.00	0.00
3	4	32.35	82.21	86.71	37.77	0.22

3	5	98.79	0.38	10.19	0.16	0.01
3	6	0.07	0.46	116.70	0.79	0.62
3	7	0.17	24.42	29.07	0.25	0.59
3	8	0.07	0.67	23.77	31.45	0.72
3	9	0.47	48.70	0.88	26.89	0.15
3	10	89.60	41.89	1.46	48.19	63.82
3	11	65.55	22.72	0.70	0.35	61.18
3	12	39.36	79.32	34.50	0.12	85.07
3	13	33.70	59.71	67.36	12.57	0.17
3	14	85.04	58.27	1.12	39.67	0.26
3	15	95.59	2.38	0.88	0.55	0.37
3	16	2.05	2.05	0.28	1.53	74.12
3	17	8.35	0.27	0.26	89.77	65.34
3	18	28.18	0.00	1.08	0.99	0.79
3	19	6.27	0.41	0.13	0.50	0.40
3	20	29.82	55.22	0.07	26.42	61.26
3	21	22.81	25.76	0.17	0.00	9.81
3	32	3.54	95.70	1.70	3.10	0.57
3	23	79.58	92.95	0.12	0.17	0.10
3	24	39.78	0.71	0.22	0.00	0.39
3	25	29.65	1.76	2.65	13.71	0.04
3	26	0.23	0.00	6.86	0.11	0.44
3	27	0.73	0.26	2.67	0.44	0.04
3	28	0.06	0.39	0.07	0.14	0.07
3	29	0.28	63.50	0.15	0.31	0.08
3	30	4.91	9.51	1.05	36.65	0.03
4	4	0.00	0.00	0.00	0.00	0.00
4	5	90.46	26.44	54.23	0.83	73.59
4	6	10.15	17.81	25.18	0.17	3.66
4	7	165.51	69.42	6.51	30.84	77.69
4	8	21.34	36.02	30.00	20.39	57.72
4	9	5.65	20.36	1.00	14.47	36.08
4	10	22.42	54.42	1.34	93.91	0.36
4	11	142.75	101.03	0.46	76.22	144.21
4	12	1.28	55.65	43.07	101.37	0.41
4	13	0.44	42.13	34.44	81.29	69.02
4	14	6.24	12.33	1.35	7.09	20.53
4	15	41.88	42.80	0.24	41.47	0.14
4	16	21.42	39.75	0.11	54.31	87.91
4	17	12.44	27.42	0.10	38.31	46.42
4	18	5.07	0.16	0.71	43.10	92.61
4	19	26.08	92.31	0.06	18.18	100.92
4	20	2.85	0.53	0.08	53.28	17.03
4	21	36.39	49.10	0.26	0.00	73.93

4	42	32.10	7.36	1.15	9.80	112.40
4	23	1.21	1.43	0.09	2.39	144.83
4	24	0.50	80.66	0.41	0.00	20.48
4	25	0.46	120.60	1.20	156.34	119.22
4	26	0.18	0.17	23.55	0.42	0.00
4	27	40.71	31.20	1.31	16.76	8.09
4	28	0.06	96.38	0.04	48.10	31.44
4	29	0.73	1.20	0.12	0.51	103.66
4	30	0.10	32.39	0.55	18.92	38.25
5	5	0.00	0.00	0.00	0.00	0.00
5	6	52.62	46.16	176.96	26.40	98.45
5	7	67.20	53.54	74.94	0.42	79.95
5	8	23.28	19.88	78.12	71.60	58.83
5	9	3.47	0.44	49.57	63.73	0.45
5	10	17.18	0.42	37.70	99.91	0.07
5	11	28.11	97.20	75.11	42.63	39.29
5	12	0.74	102.74	94.65	120.35	0.27
5	13	0.30	103.53	92.55	1.45	26.17
5	14	40.42	27.86	79.11	1.65	37.09
5	15	23.00	31.02	1.18	0.48	0.11
5	16	61.09	11.50	0.32	0.22	0.15
5	17	45.47	10.19	0.22	1.16	25.54
5	18	22.67	0.00	0.15	20.98	74.35
5	19	81.63	4.62	0.38	0.87	35.14
5	20	22.91	0.08	0.11	0.33	34.08
5	21	83.34	39.07	0.29	0.21	0.10
5	22	74.76	36.29	0.01	0.90	48.82
5	23	5.93	1.39	0.43	2.47	24.31
5	24	33.90	1.89	0.18	0.46	51.33
5	25	5.03	23.09	0.81	0.18	39.04
5	26	44.10	0.00	0.37	0.42	0.00
5	27	31.25	61.30	0.92	0.74	39.28
5	28	0.12	72.57	0.35	0.28	9.52
5	29	0.85	1.22	0.38	0.51	33.75
5	30	0.37	0.33	0.24	0.19	0.52
6	6	0.00	0.00	0.00	0.00	0.00
6	7	0.06	38.99	0.16	0.16	74.90
6	8	0.21	6.53	0.60	71.36	98.12
6	9	0.00	0.68	0.41	40.19	211.83
6	10	0.25	92.73	26.86	108.12	48.50
6	11	3.74	41.11	26.04	1.70	24.56
6	12	0.00	82.60	1.31	2.47	77.49
6	13	83.89	37.96	27.82	4.24	75.50
6	14	61.03	32.68	104.33	8.43	20.43

6	15	69.21	20.12	24.27	1.70	1.78
6	16	7.58	1.72	1.05	1.88	46.97
6	17	52.89	81.08	0.49	0.81	36.73
6	18	3.36	0.35	0.21	0.55	176.33
6	19	0.81	6.07	0.33	0.08	173.34
6	20	0.75	0.89	0.06	0.10	37.54
6	21	1.74	43.60	0.15	0.23	4.07
6	22	51.98	7.14	0.29	0.54	2.93
6	23	46.71	1.38	0.45	0.23	30.39
6	24	1.41	37.54	0.27	1.77	93.23
6	25	18.49	40.02	1.00	0.30	31.54
6	26	31.68	1.45	89.29	0.85	0.00
6	27	79.23	0.36	1.32	1.24	64.31
6	28	0.00	38.59	0.10	0.72	31.11
6	29	2.21	0.44	0.63	1.01	21.18
6	30	0.00	0.63	0.40	0.27	0.27
7	7	0.00	0.00	0.00	0.00	0.00
7	8	96.77	54.26	14.58	75.71	88.39
7	9	2.56	35.41	65.56	59.76	120.89
7	10	146.00	69.94	0.42	42.59	78.22
7	11	1.00	125.83	74.93	76.47	4.66
7	12	0.38	3.75	65.24	21.36	77.80
7	13	0.44	34.70	206.22	5.27	39.67
7	14	0.47	49.53	34.35	28.85	54.87
7	15	1.77	55.90	65.47	2.62	2.12
7	16	0.59	40.00	0.16	0.30	0.43
7	17	0.52	46.75	0.27	37.66	24.18
7	18	0.39	0.14	0.40	0.39	63.76
7	19	3.85	17.80	0.00	18.32	144.03
7	20	3.71	27.93	0.26	8.03	51.52
7	21	4.37	15.92	0.65	0.00	37.37
7	22	2.73	0.88	0.03	0.67	86.68
7	23	1.63	13.31	0.14	1.45	75.23
7	24	0.02	1.03	0.23	0.00	53.58
7	25	0.07	52.85	0.79	57.98	58.12
7	26	0.13	0.64	0.28	1.75	0.00
7	27	0.12	13.68	0.33	31.35	40.61
7	28	0.52	50.40	0.00	5.61	22.97
7	29	0.13	0.69	0.30	44.75	4.86
7	30	0.00	37.95	0.09	96.52	0.36
8	8	0.00	0.00	0.00	0.00	0.00
8	9	1.72	0.68	75.36	40.99	127.70
8	10	34.62	60.83	70.44	64.50	43.82
8	11	161.98	55.28	18.48	48.88	46.00

8	12	0.33	24.52	88.95	0.30	120.61
8	13	0.10	86.00	184.18	27.86	70.89
8	14	1.06	55.08	66.24	19.34	49.85
8	15	0.82	82.73	153.58	56.82	0.78
8	16	1.20	26.65	144.28	7.31	0.74
8	17	0.53	53.05	98.68	39.04	23.33
8	18	3.32	0.35	0.03	30.02	0.80
8	19	1.05	7.32	47.46	50.73	45.39
8	20	0.80	0.81	81.95	50.50	46.52
8	21	2.76	54.39	51.98	0.16	0.87
8	22	1.80	3.11	0.01	42.93	1.97
8	23	5.85	1.73	15.59	0.55	0.41
8	24	0.70	31.76	73.20	1.10	45.63
8	25	0.39	1.34	27.03	9.84	53.46
8	26	0.20	1.41	0.15	1.82	0.00
8	27	0.20	6.92	30.27	34.95	0.14
8	28	0.05	2.05	58.08	0.33	53.02
8	29	0.25	0.50	0.70	1.09	48.52
8	30	0.00	0.71	0.91	1.32	0.27
9	9	0.00	0.00	0.00	0.00	0.00
9	10	158.29	19.43	44.98	101.58	62.12
9	11	1.15	51.67	60.36	97.74	54.52
9	12	55.44	36.29	81.33	0.51	93.86
9	13	46.66	64.94	105.38	36.52	80.87
9	14	0.19	43.84	81.45	97.24	0.63
9	15	32.46	79.82	103.31	25.79	106.85
9	16	42.77	76.28	14.98	47.45	0.18
9	17	0.31	42.88	16.13	33.49	29.39
9	18	22.69	0.05	0.08	7.26	169.66
9	19	55.35	16.94	139.19	40.45	97.22
9	20	54.57	23.65	51.84	40.91	0.32
9	21	3.28	116.71	101.23	0.29	0.45
9	22	63.49	44.19	0.00	35.27	82.36
9	23	2.45	56.96	78.96	0.53	71.26
9	24	0.34	52.32	115.46	1.55	60.70
9	25	0.19	0.91	41.22	14.40	40.91
9	26	33.94	0.35	0.09	0.88	0.00
9	27	0.12	80.07	3.34	29.41	70.54
9	28	0.30	0.25	51.60	0.74	53.61
9	29	29.96	43.83	16.47	0.71	130.99
9	30	24.15	91.35	77.12	0.98	17.75
10	10	0.00	0.00	0.00	0.00	0.00
10	11	33.24	32.90	201.10	31.37	5.28
10	12	2.52	2.38	86.89	120.53	14.37

10	13	96.94	65.24	23.74	21.64	42.65
10	14	25.52	9.73	167.80	70.72	0.12
10	15	1.18	88.12	22.41	19.96	36.33
10	16	24.25	1.14	0.57	2.56	121.42
10	17	46.02	1.71	1.63	26.92	63.37
10	18	22.77	0.40	9.93	28.06	61.57
10	19	41.50	2.55	0.01	6.46	24.50
10	20	12.33	37.13	0.02	39.96	0.80
10	21	69.14	9.84	0.11	0.16	12.71
10	22	57.65	10.60	0.20	31.57	31.36
10	23	0.91	3.41	0.15	26.61	0.16
10	24	0.23	1.19	0.07	0.59	27.07
10	25	26.94	0.62	0.62	30.47	0.02
10	26	62.66	1.40	1.48	44.20	0.00
10	27	0.19	0.37	0.88	86.87	0.21
10	28	0.21	0.15	0.08	39.83	0.25
10	29	26.27	0.16	0.03	41.64	0.21
10	30	0.42	36.46	0.33	35.05	0.29
11	11	0.00	0.00	0.00	0.00	0.00
11	12	0.22	95.52	59.83	0.14	34.75
11	13	23.24	13.51	3.35	63.59	33.82
11	14	5.98	198.09	21.19	6.62	0.67
11	15	25.92	8.04	132.63	2.53	0.44
11	16	60.53	31.65	16.24	2.64	23.29
11	17	11.86	19.55	25.99	0.57	103.78
11	18	24.55	0.24	3.79	2.28	1.56
11	19	39.10	125.64	95.27	92.43	52.68
11	20	64.54	4.35	40.49	31.00	1.66
11	21	27.27	19.68	125.19	0.03	1.53
11	22	39.17	6.68	0.08	13.71	42.05
11	23	52.58	29.34	32.86	41.00	44.50
11	24	9.39	21.50	28.54	0.24	51.63
11	25	38.04	40.84	91.14	94.08	1.01
11	26	40.80	0.73	0.31	86.52	0.00
11	27	7.81	39.43	32.11	42.52	87.26
11	28	0.04	0.78	0.26	109.49	48.98
11	29	21.09	0.85	0.30	84.57	0.45
11	30	0.38	25.00	37.96	15.36	0.54
12	12	0.00	0.00	0.00	0.00	0.00
12	13	0.00	66.29	8.10	55.41	38.15
12	14	0.38	58.42	10.32	26.03	32.48
12	15	0.24	20.37	40.36	20.98	7.95
12	16	91.21	24.13	81.35	1.31	31.29
12	17	0.49	12.03	66.33	42.85	49.77

12	18	0.36	0.14	0.46	122.15	19.25
12	19	43.30	23.78	2.02	1.01	14.62
12	20	75.73	63.07	136.84	19.69	0.50
12	21	89.46	64.55	67.20	0.45	81.78
12	22	0.19	3.86	0.01	0.62	33.22
12	23	75.79	28.22	116.24	2.24	0.33
12	24	0.00	1.79	0.11	0.24	0.26
12	25	0.00	64.11	69.26	0.90	0.10
12	26	0.00	0.25	0.18	0.33	0.03
12	27	0.03	37.48	42.32	1.12	54.61
12	28	0.10	0.61	0.42	0.19	1.01
12	29	0.00	57.73	0.47	0.89	34.22
12	30	41.80	39.74	36.96	0.16	115.82
13	13	0.00	0.00	0.00	0.00	0.00
13	14	75.40	32.36	65.70	16.55	0.14
13	15	91.29	46.33	22.37	67.59	1.18
13	16	0.34	51.37	169.83	92.50	0.23
13	17	7.72	120.61	97.70	23.41	14.01
13	18	31.71	0.39	0.39	101.45	1.57
13	19	24.07	67.87	1.15	47.48	32.28
13	20	31.03	27.96	44.80	25.32	0.58
13	21	44.97	18.19	33.43	0.13	0.59
13	22	55.92	55.03	0.05	29.86	67.15
13	23	0.48	51.52	37.87	20.63	28.00
13	24	0.76	8.29	0.19	0.61	15.60
13	25	0.73	42.98	37.14	69.35	0.41
13	26	88.92	0.91	1.35	40.18	0.00
13	27	26.44	0.21	0.35	33.70	157.10
13	28	0.00	27.54	0.43	37.47	142.85
13	29	45.64	39.97	0.82	38.34	26.32
13	30	0.27	1.02	38.73	47.93	88.53
14	14	0.00	0.00	0.00	0.00	0.00
14	15	64.36	14.98	93.52	18.88	172.72
14	16	26.31	90.39	188.65	81.24	50.83
14	17	23.28	71.67	79.46	135.34	158.89
14	18	55.96	0.19	1.16	79.09	16.20
14	19	9.96	97.25	0.30	52.38	73.86
14	20	52.83	44.17	0.15	66.46	102.28
14	21	38.54	1.55	1.36	0.30	43.76
14	22	28.43	46.76	0.07	10.96	64.16
14	23	129.19	10.00	0.46	0.87	45.87
14	24	58.68	1.60	79.87	1.70	47.86
14	25	8.35	4.15	32.25	83.35	34.05
14	26	33.41	0.31	0.88	0.62	0.15

14	27	3.36	12.50	35.66	35.03	0.20
14	28	0.05	60.75	0.58	0.86	33.52
14	29	97.00	0.52	0.57	0.85	31.56
14	30	0.11	41.59	0.19	25.96	0.16
15	15	0.00	0.00	0.00	0.00	0.00
15	16	16.13	22.03	190.59	57.54	0.35
15	17	123.98	48.23	89.35	36.71	159.35
15	18	158.50	0.30	0.23	57.14	88.84
15	19	6.12	65.02	48.97	1.30	72.55
15	20	98.00	43.77	51.18	7.78	1.40
15	21	41.73	60.61	131.65	0.04	1.01
15	22	18.37	74.08	0.02	6.16	35.95
15	23	18.13	3.62	31.20	73.25	0.12
15	24	42.30	31.23	79.41	0.17	0.23
15	25	30.66	18.95	30.43	0.66	0.06
15	26	15.77	2.35	0.22	26.29	0.15
15	27	0.86	34.51	33.13	56.12	0.42
15	28	0.03	23.31	40.06	70.92	0.34
15	29	31.74	60.80	0.47	21.38	0.23
15	30	0.52	0.80	0.13	39.91	0.55
16	16	0.00	0.00	0.00	0.00	0.00
16	17	54.81	107.51	129.44	59.53	191.84
16	18	34.47	0.40	0.22	16.98	49.52
16	19	47.87	15.92	22.92	56.93	42.12
16	20	36.81	27.29	55.44	30.48	157.31
16	21	47.95	72.20	141.92	0.36	91.56
16	22	3.65	1.19	0.00	0.65	59.20
16	23	27.32	121.34	24.15	0.20	42.45
16	24	0.62	3.28	77.09	1.50	45.28
16	25	0.33	22.74	23.99	42.96	0.35
16	26	46.17	2.20	0.00	1.57	1.16
16	27	29.91	25.18	13.86	0.64	0.08
16	28	0.35	11.45	102.32	0.61	0.31
16	29	0.16	41.72	42.77	0.73	0.72
16	30	28.00	1.45	38.68	0.23	0.07
17	17	0.00	0.00	0.00	0.00	0.00
17	18	40.15	0.01	158.70	119.60	1.41
17	19	29.19	4.94	70.62	131.41	106.85
17	20	105.56	0.54	6.78	71.45	44.27
17	21	44.53	46.10	37.99	0.13	2.04
17	22	1.12	76.83	0.04	59.58	106.25
17	23	11.67	25.55	30.27	0.34	50.27
17	24	1.92	44.28	89.97	0.59	61.98
17	25	20.24	1.63	80.29	2.43	72.96

17	26	153.98	0.26	0.34	0.13	0.03
17	27	15.19	116.81	11.23	0.55	14.66
17	28	0.06	95.93	197.75	0.19	29.52
17	29	37.61	0.37	74.47	0.25	64.36
17	30	0.36	0.92	59.24	0.10	0.83
18	18	0.00	0.00	0.00	0.00	0.00
18	19	7.12	0.16	0.00	81.05	54.22
18	20	6.22	0.58	0.00	51.26	69.09
18	21	29.43	0.06	0.03	0.37	44.13
18	22	36.84	0.06	0.23	24.37	54.79
18	23	145.42	0.19	0.00	25.62	44.95
18	24	22.83	0.04	0.00	1.14	45.88
18	25	21.69	0.13	0.27	1.99	0.98
18	26	6.40	0.53	1.98	66.45	0.03
18	27	20.69	0.00	0.31	1.95	75.99
18	28	0.25	0.00	0.00	0.49	103.33
18	29	30.27	0.00	0.00	58.84	0.96
18	30	0.31	1.44	0.00	0.42	0.62
19	19	0.00	0.00	0.00	0.00	0.00
19	20	47.68	99.69	104.67	67.69	84.77
19	21	52.34	15.51	28.63	0.02	13.34
19	22	3.43	69.28	0.00	40.22	0.91
19	23	80.34	41.00	45.06	2.85	36.94
19	24	36.14	35.59	23.69	0.14	26.09
19	25	3.70	34.77	123.43	75.53	55.26
19	26	59.14	0.49	0.00	27.37	0.00
19	27	1.45	43.36	0.42	17.27	184.27
19	28	0.84	22.05	33.40	31.36	89.62
19	29	113.63	37.58	77.40	49.49	24.55
19	30	33.33	0.88	112.40	50.36	32.30
20	20	0.00	0.00	0.00	0.00	0.00
20	21	101.30	48.75	1.10	0.08	7.07
20	22	26.94	115.44	0.00	74.54	82.02
20	23	7.30	92.09	71.64	41.75	60.94
20	24	39.39	1.24	53.23	0.39	198.69
20	25	1.64	0.79	23.40	60.35	31.32
20	26	0.27	1.81	0.00	16.72	2.71
20	27	1.05	0.48	33.27	9.63	0.21
20	28	0.31	0.12	159.51	17.67	30.81
20	29	60.44	51.05	28.92	23.78	28.63
20	30	33.94	26.15	62.72	22.87	0.14
21	21	0.00	0.00	0.00	0.00	0.00
21	22	26.74	51.13	0.00	0.00	87.24
21	23	29.13	2.30	46.54	0.00	55.06

21	24	1.32	117.98	27.19	0.88	159.48
21	25	53.16	5.02	81.99	0.00	0.26
21	26	0.56	0.11	0.00	0.00	2.90
21	27	1.85	64.62	75.56	0.00	0.17
21	28	0.88	22.25	16.37	0.00	0.26
21	29	106.16	47.63	50.58	0.00	0.41
21	30	34.41	13.82	1.58	0.00	0.14
22	22	0.00	0.00	0.00	0.00	0.00
22	23	76.37	84.02	0.00	18.45	36.61
22	24	1.87	30.98	0.00	0.00	3.25
22	25	70.20	27.61	0.12	59.26	31.57
22	26	45.47	0.35	0.46	28.24	0.00
22	27	18.29	52.93	0.16	70.67	4.41
22	28	0.39	37.88	0.00	11.68	31.97
22	29	79.52	76.92	0.00	88.27	15.67
22	30	0.20	11.04	0.04	58.67	50.16
23	23	0.00	0.00	0.00	0.00	0.00
23	24	51.83	93.95	57.66	0.00	19.78
23	25	4.71	68.53	70.88	0.34	81.06
23	26	34.92	0.58	0.00	18.95	0.08
23	27	0.31	35.76	0.83	120.68	1.82
23	28	0.71	84.98	50.22	95.71	152.86
23	29	28.56	91.78	55.23	0.48	90.59
23	30	0.83	15.48	57.32	37.51	5.00
24	24	0.00	0.00	0.00	0.00	0.00
24	25	121.60	19.28	43.91	0.00	1.24
24	26	35.77	0.11	0.00	0.00	0.17
24	27	59.77	11.86	29.30	0.00	21.18
24	28	0.03	51.74	162.98	0.00	68.99
24	29	52.82	107.37	40.62	0.00	90.31
24	30	0.23	27.15	67.93	0.00	1.06
25	25	0.00	0.00	0.00	0.00	0.00
25	26	47.25	185.37	0.43	0.14	0.00
25	27	106.16	12.44	45.85	0.72	154.74
25	28	0.07	12.55	41.25	0.61	23.21
25	29	76.69	32.20	6.80	0.24	84.38
25	30	0.16	0.28	115.11	0.56	15.41
26	26	0.00	0.00	0.00	0.00	0.00
26	27	44.73	0.00	0.74	203.48	0.00
26	28	0.07	0.00	0.03	23.66	0.00
26	29	113.60	0.00	0.03	100.31	0.00
26	30	0.00	0.00	0.57	147.52	0.00
27	27	0.00	0.00	0.00	0.00	0.00
27	28	0.15	81.34	45.05	15.95	28.34

27	29	82.29	99.28	27.21	113.49	67.80
27	30	0.02	41.98	121.70	1.84	140.04
28	28	0.00	0.00	0.00	0.00	0.00
28	29	0.01	64.16	73.89	2.93	42.63
28	30	0.15	0.63	91.71	45.91	29.35
29	29	0.00	0.00	0.00	0.00	0.00
29	30	0.00	15.94	31.58	2.03	193.92
30	30	0.00	0.00	0.00	0.00	0.00

Table S29. The original TDM matrix elements between S_0 and S_n calculated for I-Gaq$_3$.

States		TDM between S_0 and S_n /debyee				
S0	Sn	Conformer 1	Conformer 2	Conformer 3	Conformer 4	Conformer 5
0	1	0.46	0.19	0.32	0.82	0.27
0	2	0.72	0.55	0.10	0.67	0.23
0	3	0.61	0.68	0.89	0.78	0.85
0	4	0.14	0.10	0.70	0.15	0.49
0	5	0.77	0.49	0.41	0.84	0.07
0	6	0.11	0.26	0.30	0.65	0.61
0	7	0.60	0.62	0.72	0.65	0.74
0	8	0.51	0.48	0.66	0.32	0.72
0	9	0.42	0.33	0.15	0.71	0.11
0	10	0.64	0.72	0.37	1.65	0.42
0	11	0.77	0.74	1.57	2.61	1.77
0	12	0.65	0.48	1.63	1.12	1.63
0	13	1.08	1.25	0.62	1.78	0.13
0	14	0.95	1.29	0.44	1.21	1.02
0	15	1.44	0.74	1.38	1.17	1.68
0	16	1.36	1.22	1.38	1.73	1.70
0	17	1.51	1.80	1.52	0.36	0.95
0	18	1.20	0.58	1.97	0.58	1.26
0	19	1.48	1.51	2.08	1.31	1.99
0	20	2.23	2.45	1.12	1.13	1.05
0	21	1.06	1.30	1.28	0.20	0.88
0	22	1.37	1.64	1.21	1.58	1.95
0	23	0.48	0.22	1.65	1.39	2.24
0	24	1.33	1.27	1.70	1.24	1.37
0	25	1.69	1.56	1.45	0.10	0.89
0	26	1.10	1.02	0.90	1.27	0.87
0	27	0.19	0.77	1.07	0.18	0.50
0	28	0.72	0.10	0.26	1.01	1.09
0	29	1.16	1.11	0.66	0.28	1.79
0	30	0.13	1.68	1.89	0.74	0.90

Table S30. The original TDM matrix elements between T_i and T_j calculated for I-Gaq$_3$

States		TDM between T_i and T_j /debyee				
T_i	T_j	Conformer 1	Conformer 2	Conformer 3	Conformer 4	Conformer 5
1	1	0.00	0.00	0.00	0.00	0.00
1	2	23.94	0.39	0.24	0.22	0.42
1	3	0.31	0.08	0.00	49.37	0.00
1	4	0.72	0.73	0.00	0.04	0.00
1	5	0.06	0.07	0.00	0.00	0.00
1	6	0.83	0.38	0.49	51.04	0.73
1	7	1.33	1.37	0.26	0.12	0.00
1	8	0.37	0.06	0.00	27.70	0.28
1	9	0.11	0.11	0.71	146.49	0.23
1	10	0.35	0.28	1.17	0.22	0.69
1	11	0.23	0.10	0.64	23.26	0.00
1	12	0.03	0.10	0.15	48.76	0.61
1	13	0.30	0.15	0.19	1.53	0.00
1	14	0.04	0.00	0.22	93.01	0.68
1	15	0.00	0.00	0.35	1.08	0.14
1	16	0.00	0.00	111.60	0.50	0.22
1	17	121.21	34.29	0.00	0.80	0.07
1	18	0.00	0.00	0.00	0.24	0.20
1	19	0.80	79.02	11.73	0.34	29.46
1	20	0.00	39.74	0.23	0.69	159.76
1	21	66.96	0.00	0.09	0.28	12.40
1	22	0.00	0.00	0.18	0.08	92.38
1	23	0.00	0.00	0.15	0.44	0.00
1	24	0.00	0.00	0.00	0.06	0.13
1	25	0.06	5.15	1.60	0.07	0.00
1	26	2.88	0.15	0.00	0.04	0.11
1	27	0.47	0.00	0.00	1.86	0.00
1	28	0.93	0.00	0.00	46.39	0.00
1	29	0.48	0.00	0.00	65.82	0.00
1	30	0.00	0.54	0.00	0.23	0.00
2	2	0.00	0.00	0.00	0.00	0.00
2	3	15.86	112.87	0.00	0.23	0.00
2	4	0.10	0.10	0.00	0.10	0.00
2	5	0.36	0.52	0.00	0.00	0.00
2	6	0.03	0.03	1.77	0.06	1.83
2	7	0.20	0.11	0.45	0.08	0.00
2	8	0.63	0.46	0.00	1.17	0.60
2	9	0.11	0.17	0.60	73.11	0.59

2	10	0.11	0.37	0.83	0.00	0.59
2	11	0.31	0.30	1.06	4.16	0.00
2	12	0.16	0.48	0.53	3.65	2.25
2	13	0.17	0.36	0.32	0.23	0.00
2	14	0.47	0.12	0.16	0.07	0.33
2	15	0.44	0.39	0.08	0.28	0.22
2	16	0.33	0.43	0.37	44.04	0.16
2	17	26.32	60.17	0.00	42.79	0.08
2	18	0.12	0.06	0.00	0.19	0.21
2	19	21.94	61.68	1.63	0.04	63.75
2	20	0.00	25.49	0.10	34.68	24.16
2	21	28.83	0.00	0.25	68.60	2.54
2	22	0.09	0.11	0.17	0.28	0.42
2	23	0.00	0.00	0.14	0.26	0.00
2	24	0.00	0.00	0.00	0.11	0.11
2	25	29.48	2.90	11.65	0.01	0.00
2	26	2.66	1.06	0.00	0.07	0.09
2	27	0.02	0.00	0.00	94.64	0.00
2	28	0.04	0.00	0.00	0.92	0.00
2	29	0.02	0.00	0.00	137.30	0.00
2	30	0.00	0.00	0.00	0.24	0.00
3	3	0.00	0.00	0.00	0.00	0.00
3	4	0.23	0.12	28.26	0.21	68.10
3	5	0.57	0.32	0.25	0.05	0.42
3	6	0.05	0.10	0.91	1.10	0.96
3	7	0.09	0.03	87.52	0.33	97.94
3	8	0.12	0.17	97.63	0.84	80.73
3	9	0.03	0.04	0.34	53.22	0.22
3	10	0.29	0.11	0.47	0.02	0.33
3	11	0.57	0.41	137.75	69.94	45.91
3	12	0.34	0.30	0.96	91.47	2.41
3	13	0.29	0.33	45.23	59.99	16.71
3	14	0.13	0.18	0.09	87.50	0.11
3	15	0.25	0.04	0.14	0.97	0.46
3	16	0.18	0.05	57.31	1.70	43.24
3	17	75.85	53.97	68.83	3.33	0.47
3	18	0.04	0.07	26.64	0.27	0.39
3	19	27.08	45.89	0.28	0.22	39.68
3	20	0.00	30.24	17.64	1.60	0.07
3	21	7.11	0.00	41.03	29.71	38.30
3	32	0.07	0.04	2.11	83.07	1.12
3	23	0.00	0.00	30.81	1.54	37.24
3	24	0.00	0.00	24.82	0.82	0.06
3	25	38.05	1.05	0.00	0.00	0.45

3	26	1.13	17.09	15.95	0.10	23.93
3	27	0.01	0.00	0.42	91.56	0.50
3	28	0.03	0.00	10.58	2.17	44.47
3	29	0.01	0.00	16.05	105.91	61.59
3	30	0.00	0.03	47.79	0.02	82.01
4	4	0.00	0.00	0.00	0.00	0.00
4	5	22.67	25.59	29.49	39.80	4.54
4	6	4.84	15.79	0.01	0.91	0.03
4	7	1.19	58.72	0.23	27.40	29.69
4	8	0.99	0.99	15.91	0.00	0.35
4	9	37.51	58.76	0.34	0.47	0.17
4	10	69.19	75.24	0.07	0.39	0.20
4	11	131.03	126.38	0.25	2.34	40.63
4	12	20.55	3.95	43.03	0.48	0.09
4	13	0.66	1.03	1.06	0.48	0.48
4	14	1.13	0.74	0.19	87.44	0.11
4	15	0.42	0.57	0.82	46.01	25.12
4	16	0.22	0.33	0.24	99.25	2.25
4	17	0.26	0.48	49.34	71.97	109.61
4	18	29.25	32.55	106.74	12.22	88.02
4	19	0.84	0.59	0.00	33.14	123.56
4	20	56.27	0.21	90.85	0.56	0.07
4	21	0.20	53.98	13.26	0.27	61.28
4	42	0.19	0.19	45.77	2.03	21.14
4	23	30.59	0.43	108.08	127.58	0.12
4	24	0.39	0.29	119.88	108.22	1.13
4	25	0.07	0.06	0.00	0.34	37.33
4	26	0.08	0.02	50.12	1.50	38.50
4	27	0.98	0.47	0.46	38.28	10.36
4	28	39.41	27.64	67.17	50.33	14.73
4	29	0.74	0.05	147.90	0.90	88.51
4	30	0.18	26.79	92.69	25.03	51.36
5	5	0.00	0.00	0.00	0.00	0.00
5	6	134.27	124.76	0.15	49.79	0.10
5	7	0.52	0.33	46.18	149.81	81.83
5	8	2.89	20.83	168.37	0.00	23.13
5	9	0.42	0.41	0.25	0.10	0.18
5	10	45.56	15.58	0.21	1.14	0.11
5	11	17.52	35.20	57.32	45.21	63.22
5	12	89.17	109.08	67.30	0.29	0.04
5	13	45.10	77.59	52.62	0.19	39.24
5	14	96.28	68.09	0.07	60.63	0.15
5	15	0.43	0.94	0.46	91.29	62.49
5	16	0.35	1.07	0.30	101.74	9.00

5	17	0.13	0.32	26.31	57.53	13.60
5	18	0.89	1.35	34.00	112.84	24.57
5	19	0.22	0.30	0.00	19.61	31.02
5	20	0.35	0.05	0.23	0.05	0.04
5	21	0.18	0.24	1.33	0.21	25.97
5	22	1.38	1.19	71.41	0.94	117.09
5	23	0.09	0.08	42.19	0.47	36.99
5	24	0.21	0.14	0.72	89.11	1.66
5	25	0.55	0.65	0.00	40.54	45.75
5	26	0.74	0.23	87.93	107.59	125.29
5	27	0.11	0.22	70.00	0.14	23.42
5	28	0.47	0.55	98.19	0.12	149.50
5	29	0.20	0.25	42.53	0.37	30.74
5	30	0.38	0.39	0.99	52.50	23.71
6	6	0.00	0.00	0.00	0.00	0.00
6	7	1.86	8.01	35.26	0.32	0.04
6	8	40.57	4.09	0.13	30.68	97.55
6	9	0.16	0.51	52.09	117.58	112.29
6	10	58.13	62.04	48.97	147.78	5.14
6	11	12.28	20.14	14.04	132.56	51.77
6	12	0.80	24.70	39.11	115.15	96.17
6	13	0.50	1.04	38.71	95.58	26.00
6	14	30.16	2.00	31.43	56.46	11.89
6	15	0.63	0.54	1.45	68.99	0.45
6	16	0.42	0.57	120.16	147.29	109.09
6	17	0.44	0.18	28.22	45.42	0.72
6	18	1.92	1.70	0.08	27.99	44.53
6	19	0.57	0.16	0.58	35.55	1.11
6	20	0.20	0.58	0.43	73.15	2.41
6	21	0.39	0.10	0.78	1.04	0.27
6	22	0.10	0.15	29.35	44.63	0.12
6	23	0.14	0.35	0.93	0.42	49.84
6	24	0.23	0.30	0.16	51.41	26.84
6	25	0.00	0.03	1.57	28.88	0.28
6	26	0.19	0.05	0.22	29.14	0.49
6	27	0.50	0.23	0.49	51.22	0.12
6	28	0.70	0.25	0.77	42.54	0.16
6	29	0.40	0.12	0.12	0.93	0.19
6	30	0.43	0.50	0.65	28.59	0.23
7	7	0.00	0.00	0.00	0.00	0.00
7	8	5.64	55.90	0.60	0.00	0.54
7	9	1.78	52.31	81.38	0.38	0.10
7	10	2.50	54.20	153.78	0.46	0.04
7	11	1.68	37.68	118.08	1.05	49.84

7	12	1.78	62.17	18.42	0.47	0.13
7	13	6.12	71.30	55.82	0.84	0.42
7	14	0.00	0.52	126.67	116.99	0.16
7	15	2.30	1.19	0.00	63.41	11.64
7	16	1.66	1.29	32.98	30.75	74.01
7	17	0.77	0.62	87.78	109.66	7.38
7	18	0.15	0.46	0.22	2.42	81.65
7	19	0.20	0.56	0.44	9.96	54.22
7	20	0.00	0.26	49.96	0.37	0.09
7	21	0.43	0.14	43.77	0.31	8.95
7	22	0.67	0.57	113.19	0.36	21.61
7	23	1.73	1.74	23.28	133.34	0.21
7	24	0.00	0.05	0.09	81.86	1.77
7	25	0.04	0.14	0.40	0.63	54.11
7	26	0.58	0.01	0.31	93.57	86.90
7	27	0.17	0.05	46.18	0.25	97.67
7	28	0.33	0.16	31.19	0.54	107.46
7	29	0.16	0.08	29.77	27.59	29.34
7	30	0.16	0.25	12.42	43.75	73.08
8	8	0.00	0.00	0.00	0.00	0.00
8	9	4.97	38.74	0.09	19.63	139.45
8	10	31.65	19.81	0.18	0.03	161.28
8	11	60.31	142.04	0.62	9.73	3.25
8	12	35.17	15.79	59.70	1.36	54.89
8	13	106.49	104.43	40.65	139.76	32.44
8	14	42.84	112.41	0.25	22.55	101.44
8	15	177.20	170.66	0.38	1.79	37.55
8	16	16.95	48.41	0.59	0.97	31.29
8	17	0.04	0.31	18.55	0.99	35.33
8	18	1.18	41.59	6.60	0.65	79.09
8	19	0.16	0.27	0.02	0.53	44.72
8	20	99.51	0.04	95.48	5.44	0.74
8	21	0.27	69.20	24.83	0.16	36.16
8	22	77.82	52.79	33.12	0.00	0.80
8	23	26.52	22.36	59.07	0.49	5.11
8	24	0.55	20.89	33.10	0.04	159.33
8	25	0.09	0.86	0.00	0.02	0.51
8	26	0.87	0.10	17.34	0.09	0.97
8	27	0.35	0.64	1.78	1.13	29.98
8	28	0.85	1.37	61.55	0.69	65.00
8	29	29.06	0.48	10.94	1.11	40.67
8	30	0.13	54.57	3.44	0.06	22.41
9	9	0.00	0.00	0.00	0.00	0.00
9	10	38.14	13.39	111.82	1.51	33.86

9	11	23.82	0.29	100.27	40.23	0.06
9	12	25.85	147.56	0.80	153.84	21.93
9	13	87.07	90.41	0.77	85.04	0.26
9	14	34.42	25.99	81.82	141.33	122.02
9	15	40.28	85.15	10.73	0.66	109.73
9	16	2.24	24.86	3.43	6.10	19.07
9	17	0.05	0.10	0.55	3.79	35.91
9	18	7.85	19.99	0.06	0.17	68.54
9	19	0.02	0.20	0.78	0.07	0.65
9	20	27.94	0.06	1.08	94.26	0.31
9	21	0.14	43.81	0.12	46.90	0.12
9	22	1.62	78.11	1.55	0.18	1.30
9	23	40.93	89.77	0.93	0.14	0.70
9	24	32.13	78.59	0.21	0.17	0.22
9	25	0.02	0.37	0.54	0.54	0.12
9	26	0.26	0.02	0.24	0.40	0.24
9	27	1.46	0.94	0.12	23.08	0.03
9	28	44.42	60.11	0.11	0.56	0.14
9	29	190.90	22.71	0.15	36.25	0.05
9	30	2.57	19.83	0.17	0.04	0.10
10	10	0.00	0.00	0.00	0.00	0.00
10	11	5.94	24.25	52.22	98.47	0.11
10	12	123.94	194.32	83.46	7.60	29.32
10	13	20.55	58.27	1.17	34.70	0.27
10	14	6.54	54.88	42.21	13.56	88.36
10	15	38.76	95.12	3.65	43.37	102.82
10	16	30.37	51.30	83.32	1.44	46.11
10	17	0.18	0.13	0.08	43.47	43.01
10	18	44.79	3.23	0.03	29.20	79.78
10	19	0.16	0.20	0.78	0.15	0.60
10	20	23.49	0.03	1.14	0.99	0.50
10	21	0.27	16.84	1.40	0.21	0.38
10	22	1.72	1.95	0.59	0.07	1.17
10	23	103.16	55.46	0.50	0.31	0.72
10	24	0.80	23.99	0.09	0.28	0.67
10	25	0.50	0.34	0.23	1.06	0.09
10	26	0.33	0.20	0.17	108.42	0.39
10	27	1.13	20.28	0.14	0.62	0.03
10	28	103.68	133.91	0.26	0.51	0.12
10	29	15.91	0.88	0.12	0.35	0.16
10	30	0.47	137.97	0.17	0.31	0.13
11	11	0.00	0.00	0.00	0.00	0.00
11	12	69.03	6.12	127.41	31.89	0.08
11	13	90.26	32.28	47.83	127.85	53.45

11	14	11.93	98.15	77.41	78.46	0.02
11	15	30.15	42.01	107.09	129.17	0.22
11	16	23.28	44.91	8.51	25.00	68.99
11	17	0.29	0.18	22.60	67.89	3.93
11	18	27.44	37.57	0.21	129.47	68.25
11	19	0.06	0.35	67.92	37.32	0.28
11	20	0.46	0.18	26.81	23.42	0.00
11	21	0.40	0.37	29.93	29.80	0.55
11	22	0.23	0.11	66.76	38.27	0.67
11	23	0.13	0.03	47.04	1.56	20.73
11	24	1.09	0.85	0.24	46.42	41.97
11	25	0.40	0.52	1.91	23.66	0.38
11	26	0.93	0.31	38.99	0.72	0.60
11	27	0.56	0.56	0.07	9.09	101.52
11	28	0.80	1.00	71.28	0.90	76.98
11	29	0.56	0.42	37.25	54.25	0.79
11	30	0.73	0.10	10.16	25.17	44.44
12	12	0.00	0.00	0.00	0.00	0.00
12	13	37.78	28.05	39.26	57.91	0.29
12	14	65.42	49.54	1.20	132.48	18.00
12	15	35.26	54.41	0.83	85.67	35.99
12	16	12.92	3.02	37.11	37.42	6.03
12	17	0.13	0.14	1.06	56.49	9.67
12	18	46.75	20.65	14.43	157.55	31.90
12	19	0.07	0.14	30.54	36.24	3.42
12	20	53.17	0.05	40.95	10.17	31.45
12	21	0.22	27.73	86.02	19.51	41.34
12	22	108.27	10.69	44.15	0.38	4.71
12	23	102.02	6.67	0.91	33.30	0.32
12	24	72.91	84.31	0.49	0.33	58.07
12	25	0.41	0.33	0.66	1.17	0.05
12	26	0.08	0.22	0.22	33.79	48.72
12	27	1.21	1.08	0.62	1.60	0.05
12	28	94.99	127.27	66.24	1.24	0.12
12	29	29.85	38.62	97.27	45.03	0.16
12	30	34.37	39.31	0.41	0.85	0.47
13	13	0.00	0.00	0.00	0.00	0.00
13	14	54.28	62.38	1.19	21.71	0.06
13	15	53.22	3.61	0.52	122.84	0.01
13	16	56.13	18.18	32.04	74.89	80.27
13	17	0.30	0.42	112.89	133.15	0.86
13	18	59.63	89.13	0.85	45.44	34.95
13	19	0.06	0.60	33.10	42.87	0.15
13	20	24.02	0.21	70.44	56.56	0.00

13	21	0.53	42.21	41.27	28.95	0.09
13	22	46.46	85.11	44.40	69.99	0.08
13	23	11.04	59.93	62.05	45.44	38.20
13	24	50.35	46.15	0.34	0.54	21.08
13	25	0.32	0.50	0.40	26.01	0.30
13	26	0.69	0.27	68.17	0.19	58.83
13	27	0.56	0.54	0.69	30.80	51.85
13	28	26.72	66.18	56.93	1.32	0.82
13	29	0.22	21.20	71.70	27.38	47.66
13	30	11.27	0.14	2.56	27.43	5.76
14	14	0.00	0.00	0.00	0.00	0.00
14	15	173.85	89.30	1.85	85.55	24.62
14	16	116.55	5.06	0.34	25.64	25.69
14	17	0.26	0.06	0.32	16.65	0.48
14	18	49.49	22.07	0.29	67.05	0.97
14	19	0.07	0.07	0.73	32.02	81.57
14	20	46.27	0.03	7.04	0.65	23.23
14	21	0.32	30.65	7.41	0.29	28.64
14	22	0.36	100.96	3.02	104.78	90.87
14	23	0.21	47.45	3.08	5.52	0.13
14	24	18.27	18.37	0.07	97.01	40.85
14	25	0.36	0.00	0.15	62.69	0.14
14	26	0.09	0.40	0.70	25.97	34.40
14	27	0.75	0.70	0.12	0.36	0.11
14	28	0.91	31.09	0.17	0.30	0.23
14	29	0.80	0.18	0.23	0.16	0.21
14	30	0.99	0.23	0.29	67.80	0.16
15	15	0.00	0.00	0.00	0.00	0.00
15	16	24.38	36.17	56.84	123.90	185.59
15	17	0.28	0.19	0.90	72.50	61.33
15	18	3.52	4.82	0.10	95.76	150.43
15	19	0.00	0.22	0.64	37.41	54.30
15	20	20.89	0.08	107.43	0.48	25.77
15	21	0.29	21.97	93.27	0.08	66.23
15	22	36.82	52.97	52.55	45.77	81.19
15	23	20.45	56.17	44.46	9.61	0.20
15	24	94.11	88.77	0.41	17.69	173.16
15	25	0.06	0.00	0.09	28.33	37.62
15	26	0.00	0.12	0.49	0.18	137.77
15	27	35.96	0.63	0.20	0.29	0.11
15	28	65.82	120.82	0.23	0.30	27.88
15	29	33.52	25.35	0.22	0.28	58.04
15	30	26.66	57.04	0.05	30.48	0.31
16	16	0.00	0.00	0.00	0.00	0.00

16	17	0.21	0.21	34.00	14.88	57.61
16	18	45.54	24.36	0.17	35.10	106.54
16	19	0.00	0.24	7.81	72.36	15.54
16	20	29.24	0.09	23.93	83.11	26.53
16	21	0.22	20.80	5.82	0.70	21.82
16	22	33.25	63.73	90.52	1.38	77.89
16	23	20.68	46.42	114.02	72.37	103.17
16	24	60.11	64.81	0.18	76.07	82.98
16	25	0.05	0.00	0.93	1.13	97.04
16	26	0.00	0.13	0.47	78.33	59.64
16	27	42.09	0.49	0.13	0.99	41.69
16	28	61.70	10.99	0.54	0.53	21.68
16	29	12.57	29.57	0.52	25.98	30.57
16	30	6.39	50.47	42.47	0.39	48.57
17	17	0.00	0.00	0.00	0.00	0.00
17	18	0.05	0.03	24.66	1.84	95.00
17	19	0.84	24.10	0.00	119.15	139.74
17	20	0.00	23.80	37.74	21.39	0.06
17	21	10.31	0.00	1.91	47.71	97.80
17	22	0.06	0.05	96.82	1.56	30.04
17	23	0.00	0.00	6.78	0.79	0.75
17	24	0.00	0.00	51.64	109.98	119.95
17	25	0.09	41.66	0.00	0.45	2.17
17	26	2.84	0.20	29.21	79.75	111.37
17	27	0.07	0.00	57.52	34.06	46.54
17	28	0.16	0.00	135.44	1.63	167.44
17	29	0.08	0.00	14.85	45.65	0.56
17	30	0.00	0.31	40.89	0.33	35.15
18	18	0.00	0.00	0.00	0.00	0.00
18	19	0.00	0.03	0.02	47.55	5.86
18	20	29.76	0.01	0.34	0.71	0.30
18	21	0.05	4.38	24.07	0.08	7.39
18	22	67.90	97.82	1.04	37.06	19.75
18	23	24.24	38.21	68.64	103.66	65.10
18	24	0.96	8.54	68.23	36.94	36.27
18	25	0.14	0.00	0.00	22.67	3.75
18	26	0.00	0.17	62.56	0.35	1.71
18	27	42.47	48.07	34.46	0.33	19.77
18	28	98.41	20.25	27.87	0.13	52.87
18	29	107.18	0.86	150.47	18.88	62.43
18	30	34.36	58.61	2.44	5.60	43.96
19	19	0.00	0.00	0.00	0.00	0.00
19	20	0.00	30.78	26.10	0.02	216.94
19	21	1.10	0.00	57.56	51.33	67.23

19	22	0.00	0.06	0.23	101.96	186.12
19	23	0.00	0.00	0.23	27.27	0.10
19	24	0.00	0.00	0.00	46.22	5.27
19	25	50.38	2.93	0.40	78.45	0.88
19	26	0.08	0.86	0.09	32.21	2.54
19	27	0.03	0.00	0.02	0.54	36.40
19	28	0.06	0.00	0.03	0.50	85.30
19	29	0.03	0.00	0.02	36.36	45.84
19	30	0.00	0.15	0.02	156.16	27.99
20	20	0.00	0.00	0.00	0.00	0.00
20	21	0.00	0.00	59.31	33.46	47.47
20	22	85.23	0.02	16.08	0.18	96.62
20	23	14.56	0.00	31.08	1.33	0.00
20	24	2.29	0.00	81.65	0.70	43.22
20	25	0.00	1.12	0.13	0.23	0.03
20	26	0.00	127.34	68.10	0.34	36.41
20	27	1.37	0.00	0.38	113.02	0.03
20	28	65.18	0.00	46.71	2.77	0.06
20	29	45.67	0.00	33.17	107.93	0.07
20	30	28.45	0.15	57.08	0.03	0.02
21	21	0.00	0.00	0.00	0.00	0.00
21	22	0.07	31.78	151.12	25.79	39.33
21	23	0.00	19.19	98.13	25.02	0.16
21	24	0.00	4.85	20.13	53.40	67.76
21	25	0.16	0.00	0.31	0.28	31.01
21	26	2.25	0.00	151.20	0.38	11.03
21	27	0.04	1.73	49.32	12.15	32.55
21	28	0.09	102.87	35.01	0.87	89.00
21	29	0.04	21.55	7.20	12.58	6.13
21	30	0.00	6.10	93.21	0.15	25.20
22	22	0.00	0.00	0.00	0.00	0.00
22	23	24.84	128.15	17.71	18.71	0.46
22	24	44.57	48.34	50.24	43.96	90.38
22	25	0.03	0.00	0.21	65.74	197.57
22	26	0.00	0.02	89.48	1.99	83.16
22	27	62.00	90.12	126.24	24.61	0.45
22	28	89.52	16.11	42.32	63.96	111.64
22	29	35.04	96.23	101.04	0.66	68.91
22	30	83.39	31.35	43.84	38.81	51.58
23	23	0.00	0.00	0.00	0.00	0.00
23	24	0.62	0.61	87.24	94.47	40.56
23	25	0.00	0.00	0.18	92.38	0.47
23	26	0.00	0.00	135.18	0.71	46.55
23	27	102.11	0.26	20.87	45.76	48.83

23	28	7.43	63.78	33.93	56.67	17.69
23	29	75.76	1.48	48.62	13.84	64.61
23	30	0.94	70.70	32.65	46.27	30.00
24	24	0.00	0.00	0.00	0.00	0.00
24	25	0.00	0.00	0.00	109.06	82.20
24	26	0.00	0.00	78.62	85.96	81.53
24	27	70.85	24.28	7.00	91.66	63.04
24	28	42.73	67.14	92.23	119.02	11.09
24	29	43.75	39.36	42.00	28.43	95.07
24	30	27.66	11.55	205.62	23.61	19.45
25	25	0.00	0.00	0.00	0.00	0.00
25	26	0.48	0.49	0.00	120.30	28.47
25	27	0.01	0.00	0.00	48.26	121.14
25	28	0.01	0.00	0.00	62.13	71.11
25	29	0.01	0.00	0.00	0.14	0.24
25	30	0.00	0.17	0.00	23.46	93.64
26	26	0.00	0.00	0.00	0.00	0.00
26	27	0.22	0.00	89.51	0.49	10.77
26	28	0.43	0.00	68.88	0.55	50.73
26	29	0.22	0.00	3.43	0.14	62.98
26	30	0.00	0.00	91.77	0.23	29.20
27	27	0.00	0.00	0.00	0.00	0.00
27	28	152.68	85.50	90.30	156.12	45.08
27	29	51.88	113.36	39.86	125.89	55.23
27	30	87.40	148.71	37.85	25.98	87.80
28	28	0.00	0.00	0.00	0.00	0.00
28	29	17.07	98.70	20.41	185.88	21.36
28	30	23.59	1.92	5.74	26.47	45.07
29	29	0.00	0.00	0.00	0.00	0.00
29	30	83.82	32.40	58.49	49.59	17.19
30	30	0.00	0.00	0.00	0.00	0.00

Table S31. The original TDM matrix elements between S_0 and S_n calculated for I-Al(qBr_2)$_3$.

States		TDM elements between S_0 and S_n /debyee				
S_0	S_n	Conformer 1	Conformer 2	Conformer 3	Conformer 4	Conformer 5
0	1	0.43	0.12	0.29	0.56	0.05
0	2	0.62	0.59	0.26	0.40	0.09
0	3	0.05	0.06	0.12	0.20	0.03
0	4	0.40	0.11	0.15	0.68	0.15
0	5	0.14	0.55	0.09	1.50	0.07
0	6	0.60	0.62	0.25	0.18	0.20
0	7	0.58	0.63	0.25	0.38	0.46

0	8	0.06	0.71	0.33	1.50	0.39
0	9	0.09	0.39	0.10	0.83	0.58
0	10	1.09	0.86	1.33	1.82	0.44
0	11	0.85	0.88	1.58	1.89	0.92
0	12	1.59	1.87	0.94	0.49	0.80
0	13	0.24	0.80	0.96	1.02	2.28
0	14	0.47	1.87	2.39	0.70	1.20
0	15	1.04	0.84	0.44	0.68	0.44
0	16	2.22	0.87	1.69	0.43	1.53
0	17	2.11	0.64	1.17	0.55	1.11
0	18	0.80	1.51	0.86	2.01	0.80
0	19	0.51	1.70	1.51	0.14	0.65
0	20	1.44	1.67	1.49	0.93	0.30
0	21	1.51	2.12	0.23	0.82	1.15
0	22	2.09	2.28	1.11	1.15	0.18
0	23	0.14	0.26	0.86	0.79	0.11
0	24	0.09	1.09	0.87	1.33	0.80
0	25	0.33	1.78	1.99	2.42	1.44
0	26	2.01	1.50	0.17	1.01	0.77
0	27	1.61	0.81	1.35	0.47	2.11
0	28	0.89	0.82	0.58	0.84	1.30
0	29	0.40	0.39	1.49	0.87	0.94
0	30	0.10	0.66	0.20	0.43	0.05

Table S32. The original TDM matrix elements between T_i and T_j calculated for I-Al(qBr_2)$_3$.

States		TDM elements between T_i and T_j /debyee				
T_i	T_j	Conformer 1	Conformer 2	Conformer 3	Conformer 4	Conformer 5
1	1	0.00	0.00	0.00	0.00	0.00
1	2	18.64	0.46	25.46	0.00	5.50
1	3	81.27	0.09	99.56	0.24	0.00
1	4	59.22	0.38	62.29	0.22	0.08
1	5	42.63	0.36	83.40	0.00	4.24
1	6	46.29	0.25	34.37	0.00	2.16
1	7	2.32	0.21	46.36	0.00	10.46
1	8	0.89	0.90	0.37	0.16	0.33
1	9	85.86	0.20	94.47	0.11	1.54
1	10	121.06	0.08	79.12	0.63	0.00
1	11	0.39	0.15	0.61	0.46	0.77
1	12	0.64	0.00	110.81	0.37	0.55
1	13	67.33	0.06	68.92	1.18	0.05
1	14	0.05	0.00	0.16	129.87	0.06
1	15	0.02	0.16	0.12	1.43	0.04

1	16	0.23	0.46	0.02	112.70	0.06
1	17	26.63	0.36	23.20	102.36	0.07
1	18	0.02	0.00	0.03	0.03	2.08
1	19	6.92	30.81	3.74	0.00	0.00
1	20	0.55	0.00	0.06	0.17	0.02
1	21	1.31	0.00	0.29	15.92	0.19
1	22	1.69	1.81	0.38	24.33	0.04
1	23	0.20	0.00	3.12	0.00	0.03
1	24	0.02	0.00	0.09	171.22	0.05
1	25	0.98	0.00	0.18	0.00	0.04
1	26	0.50	0.10	0.11	3.37	0.04
1	27	1.12	0.03	0.22	0.00	2.16
1	28	162.31	0.45	1.21	0.58	0.92
1	29	0.06	0.00	0.54	0.62	0.21
1	30	1.38	0.00	0.40	0.00	0.21
2	2	0.00	0.00	0.00	0.00	0.00
2	3	35.80	28.06	10.64	0.45	0.00
2	4	0.03	0.16	0.73	0.49	0.06
2	5	165.90	0.27	215.23	1.60	3.04
2	6	11.86	0.39	110.70	0.57	1.38
2	7	0.19	0.06	3.15	0.10	0.24
2	8	63.21	233.58	42.66	0.43	9.90
2	9	139.14	40.87	183.46	0.39	2.98
2	10	15.53	0.12	2.22	1.87	0.00
2	11	36.48	0.27	48.69	1.67	0.92
2	12	68.81	0.00	2.16	1.54	0.55
2	13	0.61	0.02	21.36	1.69	0.20
2	14	0.26	0.00	0.16	0.46	0.01
2	15	0.12	36.25	0.10	0.72	0.04
2	16	0.04	140.91	0.08	0.10	0.02
2	17	0.20	107.78	96.84	0.18	0.06
2	18	0.06	0.00	0.05	0.07	2.53
2	19	0.03	1.91	1.55	0.00	0.02
2	20	0.30	0.00	0.05	0.13	0.07
2	21	0.44	0.00	0.28	0.07	0.19
2	22	1.27	15.58	0.16	0.12	0.06
2	23	0.09	0.00	0.72	0.00	0.03
2	24	0.10	0.00	0.04	45.24	0.03
2	25	0.23	0.00	0.47	0.00	0.02
2	26	0.08	1.43	0.20	55.37	0.04
2	27	0.03	0.33	0.37	0.00	2.18
2	28	0.02	0.00	41.37	29.72	0.06
2	29	0.43	0.00	52.27	0.12	0.05
2	30	0.28	0.10	0.85	0.00	0.74

3	3	0.00	0.00	0.00	0.00	0.00
3	4	26.79	0.04	0.00	21.45	0.03
3	5	21.82	0.16	0.39	250.53	0.00
3	6	64.23	0.14	50.48	96.37	38.18
3	7	1.04	0.20	0.66	29.33	0.08
3	8	0.94	0.83	0.13	95.85	0.21
3	9	95.82	0.68	37.85	39.29	0.65
3	10	57.74	44.12	0.50	115.05	0.04
3	11	0.52	0.57	0.18	87.78	0.18
3	12	0.60	0.13	0.65	111.12	0.73
3	13	24.11	114.38	1.03	21.76	0.29
3	14	0.07	139.71	0.03	203.67	0.00
3	15	0.03	54.91	0.02	22.70	16.00
3	16	0.15	145.89	0.01	53.64	0.00
3	17	28.16	12.04	0.51	181.87	0.00
3	18	0.02	42.87	0.02	75.95	0.08
3	19	61.23	0.14	2.25	0.17	0.00
3	20	0.85	0.04	0.01	91.22	0.00
3	21	1.39	0.06	0.06	27.98	0.36
3	32	2.88	0.41	1.16	38.90	0.00
3	23	0.10	0.33	2.24	0.22	0.00
3	24	0.03	0.05	0.01	0.29	0.05
3	25	0.63	0.03	1.53	0.13	0.00
3	26	0.57	0.00	0.04	48.92	1.49
3	27	0.39	0.02	0.06	0.08	0.00
3	28	103.81	0.00	158.10	118.47	0.07
3	29	0.08	0.04	41.63	103.98	1.42
3	30	0.42	0.58	55.29	0.23	0.51
4	4	0.00	0.00	0.00	0.00	0.00
4	5	47.37	16.88	0.00	3.80	0.12
4	6	0.03	120.78	0.20	166.85	0.73
4	7	0.11	10.29	0.20	113.63	0.04
4	8	0.07	0.94	0.12	1.68	0.03
4	9	0.16	0.66	0.08	26.64	0.01
4	10	0.06	4.06	0.33	33.89	0.06
4	11	0.07	0.98	0.07	32.26	0.00
4	12	0.05	0.15	0.07	70.97	0.16
4	13	0.32	1.16	0.24	35.02	0.00
4	14	0.00	0.48	0.00	2.92	0.00
4	15	0.00	0.22	0.00	46.18	0.63
4	16	0.01	0.05	0.00	0.57	0.00
4	17	57.64	0.42	49.10	1.18	0.00
4	18	0.00	0.17	0.00	53.12	0.38
4	19	15.43	0.27	217.76	36.90	0.00

4	20	0.20	0.03	0.00	28.75	0.00
4	21	0.26	0.44	0.00	0.83	3.29
4	42	0.44	0.11	0.00	0.76	0.00
4	23	0.00	0.06	0.00	27.46	0.00
4	24	0.00	0.02	0.00	0.08	27.42
4	25	6.22	0.15	2.45	37.53	0.00
4	26	120.61	1.51	0.00	100.06	0.84
4	27	45.63	0.35	0.00	0.35	1.72
4	28	18.96	0.00	0.00	0.51	0.03
4	29	0.00	0.08	0.72	0.47	0.07
4	30	1.86	0.00	0.00	0.19	0.00
5	5	0.00	0.00	0.00	0.00	0.00
5	6	0.55	32.52	7.48	65.19	0.14
5	7	0.50	1.70	0.15	38.40	0.00
5	8	0.22	1.58	119.04	3.39	0.00
5	9	73.98	10.70	0.47	67.68	0.00
5	10	0.79	1.01	0.24	5.03	10.59
5	11	0.10	0.45	32.03	70.08	0.24
5	12	0.11	0.15	163.41	64.09	0.31
5	13	112.01	1.77	0.38	1.45	1.21
5	14	0.00	0.81	0.03	1.80	0.02
5	15	0.00	1.29	0.02	2.71	0.05
5	16	0.07	0.20	0.50	41.19	0.04
5	17	1.86	1.75	0.10	37.17	0.00
5	18	0.00	0.16	0.17	24.23	1.51
5	19	0.79	0.25	0.28	100.60	0.06
5	20	0.41	0.07	0.16	34.99	0.02
5	21	0.40	0.06	0.06	33.60	0.25
5	22	0.73	0.21	0.91	0.64	0.04
5	23	0.05	0.06	2.90	1.36	0.03
5	24	0.00	0.04	0.28	0.00	0.07
5	25	29.49	0.21	0.00	47.04	0.05
5	26	0.54	2.65	0.12	0.00	0.05
5	27	0.55	0.75	0.32	0.72	2.51
5	28	33.80	0.00	0.89	0.32	0.00
5	29	0.00	0.04	0.23	0.00	0.03
5	30	1.24	0.02	0.45	0.46	0.03
6	6	0.00	0.00	0.00	0.00	0.00
6	7	0.06	1.88	0.74	175.65	263.84
6	8	0.61	2.01	66.16	38.16	168.27
6	9	0.34	0.34	104.80	16.46	55.03
6	10	75.04	1.48	3.49	38.57	0.66
6	11	49.76	10.49	140.15	19.37	0.08
6	12	21.98	0.16	4.62	1.98	28.99

6	13	0.33	1.49	97.87	1.04	0.10
6	14	0.08	0.28	0.04	0.70	0.01
6	15	0.13	2.13	0.09	1.30	111.29
6	16	0.01	0.11	0.04	30.23	0.02
6	17	0.10	1.53	37.75	2.24	0.03
6	18	0.26	0.40	0.41	112.40	128.69
6	19	0.03	0.17	0.19	95.19	0.01
6	20	0.47	0.07	0.07	55.59	0.03
6	21	0.63	0.21	0.08	3.35	63.96
6	22	1.34	0.09	0.38	1.50	0.02
6	23	0.01	0.08	0.92	44.89	0.01
6	24	0.17	0.22	0.14	0.00	3.19
6	25	0.37	0.28	0.00	6.60	0.01
6	26	0.15	1.79	0.55	0.00	86.11
6	27	0.03	0.43	0.03	1.11	1.02
6	28	0.05	0.00	2.32	0.11	0.46
6	29	0.11	0.08	0.22	0.00	1.34
6	30	0.11	0.01	1.01	0.49	0.04
7	7	0.00	0.00	0.00	0.00	0.00
7	8	4.75	0.50	1.86	186.46	63.17
7	9	5.21	120.49	125.96	48.49	67.24
7	10	87.29	195.85	106.08	1.12	4.16
7	11	0.88	202.31	0.34	124.02	2.00
7	12	0.12	0.28	80.98	167.83	0.05
7	13	0.00	81.57	0.07	58.40	0.12
7	14	0.06	173.33	0.15	124.79	0.05
7	15	0.02	173.00	0.14	37.92	0.49
7	16	0.17	0.45	0.08	9.08	0.09
7	17	0.37	0.54	0.56	14.80	0.11
7	18	0.02	65.98	0.12	14.05	0.04
7	19	2.57	0.32	0.04	26.39	0.01
7	20	0.12	0.13	0.14	10.00	0.03
7	21	0.07	0.30	0.63	47.99	0.49
7	22	0.06	0.07	0.12	1.04	0.20
7	23	0.21	0.11	0.12	100.90	0.06
7	24	0.01	0.15	0.09	0.01	0.08
7	25	1.77	0.14	0.35	87.63	0.06
7	26	1.37	0.04	0.40	0.08	1.59
7	27	0.07	0.12	0.34	1.76	0.00
7	28	0.21	0.00	0.02	0.07	0.26
7	29	0.03	0.07	0.06	0.05	1.15
7	30	0.62	0.00	0.11	0.24	0.06
8	8	0.00	0.00	0.00	0.00	0.00
8	9	102.13	54.91	76.71	83.17	61.90

8	10	61.21	58.62	82.91	8.27	3.03
8	11	72.85	143.03	52.50	43.63	163.54
8	12	77.68	0.00	178.38	123.64	0.05
8	13	0.11	0.11	0.27	162.61	48.68
8	14	0.38	0.28	0.04	246.17	0.01
8	15	0.13	2.17	0.02	196.79	0.47
8	16	0.04	7.97	0.59	38.57	0.03
8	17	0.08	37.27	0.63	21.04	0.30
8	18	0.13	0.09	0.13	107.69	0.04
8	19	0.51	0.61	0.01	91.99	0.08
8	20	0.07	0.01	0.14	1.04	0.10
8	21	0.07	0.02	0.09	32.13	0.77
8	22	0.12	2.44	0.11	70.64	0.39
8	23	0.10	0.01	0.20	155.16	0.14
8	24	0.05	0.04	0.16	0.07	0.06
8	25	0.91	0.02	0.35	89.39	0.10
8	26	0.55	3.53	0.10	1.15	2.19
8	27	0.16	0.76	0.19	1.68	0.00
8	28	0.05	0.00	0.22	0.47	0.42
8	29	0.48	0.00	0.08	0.36	0.83
8	30	0.16	0.34	0.51	1.50	0.29
9	9	0.00	0.00	0.00	0.00	0.00
9	10	25.84	53.78	35.46	29.53	0.47
9	11	56.74	26.05	13.69	61.99	50.96
9	12	62.61	48.82	82.44	81.90	0.01
9	13	166.30	22.56	0.49	33.08	172.96
9	14	0.13	37.73	0.40	0.25	0.50
9	15	0.09	26.44	0.28	151.55	0.25
9	16	0.43	2.27	0.17	21.31	0.21
9	17	1.39	150.91	0.08	28.45	1.24
9	18	0.04	68.26	0.07	90.37	0.01
9	19	0.44	0.46	0.04	88.00	0.05
9	20	0.25	0.14	0.16	161.17	0.13
9	21	0.18	0.12	0.67	83.75	0.19
9	22	0.79	0.60	0.25	0.30	0.34
9	23	0.48	0.29	0.43	15.08	0.55
9	24	0.04	0.12	0.33	0.02	0.01
9	25	0.63	0.13	0.23	87.24	0.44
9	26	0.06	0.62	0.13	0.68	0.94
9	27	0.35	0.13	0.58	26.74	0.00
9	28	0.44	0.00	0.35	0.23	0.25
9	29	0.33	0.08	0.24	0.22	2.13
9	30	1.96	0.05	0.43	0.65	0.90
10	10	0.00	0.00	0.00	0.00	0.00

10	11	113.25	73.57	164.75	45.91	0.63
10	12	38.25	29.43	94.13	120.24	0.06
10	13	0.32	110.16	0.11	60.38	3.14
10	14	0.37	166.30	0.14	64.08	0.02
10	15	0.21	78.21	0.18	12.48	0.25
10	16	0.14	64.16	0.12	72.17	0.07
10	17	0.01	23.26	1.10	133.34	0.00
10	18	0.06	3.39	0.21	37.41	0.05
10	19	0.40	0.12	0.04	2.48	0.06
10	20	0.22	63.52	0.08	70.21	0.03
10	21	0.18	173.84	0.26	11.00	0.36
10	22	0.34	0.08	0.14	58.42	0.05
10	23	0.11	56.02	0.20	71.61	0.06
10	24	0.20	141.81	0.11	0.20	0.12
10	25	0.26	91.81	0.41	75.79	0.07
10	26	0.34	0.27	0.65	121.26	1.22
10	27	0.15	28.55	0.25	1.00	0.00
10	28	0.21	0.01	0.05	1.66	0.27
10	29	1.04	0.39	0.10	1.48	0.75
10	30	1.27	28.76	0.12	0.56	0.05
11	11	0.00	0.00	0.00	0.00	0.00
11	12	29.85	90.82	57.01	42.72	0.00
11	13	0.01	89.69	0.40	42.26	124.34
11	14	0.10	92.39	0.01	50.36	0.71
11	15	0.13	82.66	0.09	180.17	0.03
11	16	0.04	1.55	0.84	107.13	0.20
11	17	0.09	141.56	0.24	163.46	0.06
11	18	0.37	109.62	0.11	21.79	0.00
11	19	0.65	0.23	0.08	93.37	0.11
11	20	0.13	0.33	0.19	42.20	0.07
11	21	0.08	72.32	0.13	143.03	0.00
11	22	0.03	0.09	0.37	70.72	1.34
11	23	0.04	0.23	0.33	37.80	0.18
11	24	0.13	0.91	0.42	0.11	0.00
11	25	1.30	70.38	0.17	72.40	0.28
11	26	1.07	0.10	0.12	3.26	0.82
11	27	0.16	0.41	0.26	0.68	0.00
11	28	0.02	0.02	0.43	0.58	0.16
11	29	0.11	0.27	0.26	0.95	1.07
11	30	0.28	0.11	0.70	1.32	0.32
12	12	0.00	0.00	0.00	0.00	0.00
12	13	0.24	55.05	0.65	133.87	0.00
12	14	0.05	12.88	0.10	94.86	0.00
12	15	0.28	117.60	0.35	132.74	26.26

12	16	0.04	0.24	0.10	33.18	0.00
12	17	0.01	50.60	0.38	105.10	0.00
12	18	0.49	80.87	0.79	22.70	37.92
12	19	0.30	0.00	0.04	158.65	0.00
12	20	0.14	90.63	0.17	1.59	0.00
12	21	0.18	17.94	0.14	62.22	6.71
12	22	0.05	0.00	0.16	0.51	0.00
12	23	0.04	44.64	0.28	49.59	0.00
12	24	0.34	3.51	0.21	0.05	0.68
12	25	0.20	158.33	0.09	98.98	0.00
12	26	0.13	0.27	1.05	2.57	26.28
12	27	0.08	0.94	0.11	0.45	0.80
12	28	0.22	0.01	0.35	0.36	0.10
12	29	0.17	1.87	0.39	0.49	0.30
12	30	1.54	0.11	0.28	1.52	0.00
13	13	0.00	0.00	0.00	0.00	0.00
13	14	0.00	35.39	0.00	118.00	0.24
13	15	0.00	37.29	0.00	97.67	0.05
13	16	0.00	75.37	0.00	74.74	0.37
13	17	6.64	184.76	133.91	95.54	0.18
13	18	0.00	13.97	0.00	0.44	0.00
13	19	121.67	0.08	6.29	0.06	0.73
13	20	1.27	168.74	0.00	77.87	0.43
13	21	1.32	12.01	0.00	99.61	0.00
13	22	2.62	0.02	0.51	52.09	0.05
13	23	0.00	116.26	2.17	0.17	0.20
13	24	0.00	43.00	0.00	0.50	0.00
13	25	1.72	13.46	0.00	0.35	0.31
13	26	0.00	0.19	0.00	40.22	0.81
13	27	0.93	1.03	0.00	0.15	0.00
13	28	121.11	0.03	0.07	50.79	0.02
13	29	0.00	0.50	0.56	44.56	1.22
13	30	2.57	0.34	0.21	0.15	0.43
14	14	0.00	0.00	0.00	0.00	0.00
14	15	15.95	94.68	26.04	55.27	0.00
14	16	0.58	85.82	16.21	28.56	0.92
14	17	0.00	107.52	0.00	71.01	0.89
14	18	51.27	46.46	124.68	36.47	0.00
14	19	0.00	0.00	0.00	0.12	155.47
14	20	94.43	61.22	85.21	164.16	109.35
14	21	45.30	169.07	67.56	62.28	0.00
14	22	38.18	0.00	79.14	19.38	1.90
14	23	158.64	106.57	0.08	0.47	267.14
14	24	28.45	107.45	88.50	1.14	0.00

14	25	38.33	95.22	0.00	1.04	162.96
14	26	39.47	0.14	109.00	0.85	0.00
14	27	0.00	0.76	66.69	0.46	0.00
14	28	0.00	0.04	0.46	0.22	1.09
14	29	2.11	0.35	0.00	0.15	0.76
14	30	0.19	0.31	30.58	0.08	0.83
15	15	0.00	0.00	0.00	0.00	0.00
15	16	100.31	137.27	0.81	125.84	0.00
15	17	0.00	17.75	0.00	52.06	0.00
15	18	43.12	126.82	69.10	52.06	0.99
15	19	0.00	0.24	0.00	9.88	0.00
15	20	186.46	20.53	56.81	196.71	0.00
15	21	108.50	24.75	72.28	79.37	148.69
15	22	18.66	0.51	26.78	24.84	0.00
15	23	18.27	64.47	0.34	43.72	0.00
15	24	71.01	167.10	90.54	1.54	0.10
15	25	31.24	53.69	0.00	60.65	0.00
15	26	80.58	0.10	35.64	52.17	27.62
15	27	0.00	0.30	1.54	26.84	0.30
15	28	0.00	0.01	0.14	65.87	0.44
15	29	0.92	0.54	0.00	58.46	1.53
15	30	56.41	0.30	0.34	0.35	0.09
16	16	0.00	0.00	0.00	0.00	0.00
16	17	0.01	156.26	0.00	170.82	1.53
16	18	0.37	89.20	138.81	181.17	0.00
16	19	0.00	0.70	0.00	44.24	69.09
16	20	134.26	25.25	93.25	66.56	207.52
16	21	151.50	48.51	81.68	153.28	0.00
16	22	34.51	2.02	107.78	125.28	2.06
16	23	11.12	75.23	0.32	61.00	41.41
16	24	120.29	95.81	35.00	1.36	0.00
16	25	87.83	13.98	0.00	138.65	35.39
16	26	103.00	0.04	8.76	1.15	0.00
16	27	0.00	40.73	20.79	41.77	0.02
16	28	0.03	0.03	80.80	0.42	0.22
16	29	35.46	0.29	0.00	0.20	1.25
16	30	0.26	0.85	22.83	0.60	1.12
17	17	0.00	0.00	0.00	0.00	0.00
17	18	0.00	17.05	0.00	30.40	0.03
17	19	154.72	0.55	201.49	34.62	83.81
17	20	65.12	22.84	0.00	179.26	92.62
17	21	88.21	116.83	0.00	102.19	0.02
17	22	14.04	1.52	0.15	87.81	110.05
17	23	0.00	110.76	0.91	86.99	165.23

17	24	0.00	56.77	0.00	0.70	0.00
17	25	55.74	43.87	1.14	86.32	9.89
17	26	0.57	0.05	0.00	1.70	0.23
17	27	1.84	42.72	0.00	27.28	0.00
17	28	6.53	0.01	0.29	0.30	0.99
17	29	0.00	0.24	0.49	0.50	172.29
17	30	64.91	0.61	0.25	0.38	90.50
18	18	0.00	0.00	0.00	0.00	0.00
18	19	0.00	0.00	0.00	69.25	0.00
18	20	220.29	39.35	6.40	80.40	0.00
18	21	29.95	4.46	139.00	43.56	114.33
18	22	25.84	0.00	26.99	79.83	0.00
18	23	52.16	75.03	80.06	28.75	0.00
18	24	11.66	42.68	49.64	0.05	0.49
18	25	71.83	13.36	0.00	115.31	0.00
18	26	128.92	0.19	122.07	0.55	40.86
18	27	0.00	39.53	61.80	71.22	3.10
18	28	0.00	0.03	41.44	0.13	1.83
18	29	0.44	1.51	0.00	0.24	6.06
18	30	35.19	0.46	92.89	0.38	0.26
19	19	0.00	0.00	0.00	0.00	0.00
19	20	0.00	0.00	0.00	146.25	11.76
19	21	0.23	0.00	0.00	66.38	0.00
19	22	0.29	0.37	0.71	0.20	79.74
19	23	0.00	0.00	3.24	40.18	184.89
19	24	0.00	0.00	0.00	0.00	0.00
19	25	62.89	0.00	0.48	36.17	16.77
19	26	3.35	0.07	0.00	0.00	0.00
19	27	1.63	0.02	0.00	103.26	0.00
19	28	128.23	1.19	1.56	0.00	0.21
19	29	0.00	0.00	1.79	0.00	0.24
19	30	2.24	0.00	1.01	0.57	0.55
20	20	0.00	0.00	0.00	0.00	0.00
20	21	95.86	24.52	44.15	183.82	0.00
20	22	47.61	0.00	94.77	93.81	58.38
20	23	114.01	71.69	101.48	39.85	15.88
20	24	46.65	35.00	33.35	0.09	0.00
20	25	168.98	7.96	0.00	40.25	8.17
20	26	113.39	0.05	139.98	0.85	0.00
20	27	0.00	60.10	135.13	0.08	0.00
20	28	0.60	0.08	4.22	0.23	0.04
20	29	41.72	0.68	0.00	0.34	0.16
20	30	85.76	0.15	164.21	0.14	0.55
21	21	0.00	0.00	0.00	0.00	0.00

21	22	49.95	0.00	53.14	67.35	0.00
21	23	59.59	9.14	51.42	141.40	0.00
21	24	31.40	20.66	43.29	39.20	0.51
21	25	85.05	21.07	0.00	1.64	0.00
21	26	20.18	41.35	126.00	0.53	6.02
21	27	0.27	116.82	28.18	0.63	1.44
21	28	57.67	0.02	0.46	0.27	72.26
21	29	31.61	41.84	0.03	0.14	208.43
21	30	22.64	0.48	70.91	0.58	0.21
22	22	0.00	0.00	0.00	0.00	0.00
22	23	122.38	0.00	65.61	0.17	119.91
22	24	45.73	0.00	65.68	129.23	0.00
22	25	17.15	0.00	0.00	0.32	95.91
22	26	139.50	1.71	8.19	105.69	0.00
22	27	0.19	0.40	43.37	0.17	0.00
22	28	72.46	0.00	0.82	94.90	70.72
22	29	40.50	0.00	0.18	40.02	161.06
22	30	72.11	0.00	134.00	0.02	24.38
23	23	0.00	0.00	0.00	0.00	0.00
23	24	48.13	77.12	1.20	0.00	0.00
23	25	37.08	57.88	0.00	52.29	16.54
23	26	44.41	0.11	0.10	0.00	0.00
23	27	0.00	57.71	0.10	70.69	0.00
23	28	0.00	0.01	58.00	0.00	0.16
23	29	0.39	0.28	89.46	0.00	45.96
23	30	0.26	0.49	56.82	0.55	1.18
24	24	0.00	0.00	0.00	0.00	0.00
24	25	78.00	109.00	0.00	0.00	0.00
24	26	100.20	0.09	93.00	142.13	0.49
24	27	0.00	0.83	70.84	0.01	0.99
24	28	0.00	0.03	41.98	25.74	0.05
24	29	1.20	1.28	0.00	0.14	0.14
24	30	48.80	0.46	41.61	0.00	0.00
25	25	0.00	0.00	0.00	0.00	0.00
25	26	94.11	47.78	0.00	0.00	0.00
25	27	1.72	3.80	0.00	65.94	0.00
25	28	63.70	0.07	1.57	0.00	0.35
25	29	26.65	98.78	3.89	0.00	0.29
25	30	55.76	0.43	0.64	1.71	0.63
26	26	0.00	0.00	0.00	0.00	0.00
26	27	1.34	66.34	50.62	0.00	0.28
26	28	1.34	0.00	42.07	8.18	176.94
26	29	30.30	121.42	0.07	26.70	75.80
26	30	4.74	0.08	108.20	0.00	135.91

27	27	0.00	0.00	0.00	0.00	0.00
27	28	52.78	0.04	99.51	0.02	0.00
27	29	0.00	49.25	0.03	0.05	0.00
27	30	109.78	20.70	30.39	145.84	0.00
28	28	0.00	0.00	0.00	0.00	0.00
28	29	0.00	0.00	81.58	68.36	134.58
28	30	73.25	0.28	275.61	0.00	121.11
29	29	0.00	0.00	0.00	0.00	0.00
29	30	0.23	83.91	219.66	0.00	95.76
30	30	0.00	0.00	0.00	0.00	0.00

References:

1. Jang, H.; Do, L. M.; Kim, Y.; Zyung, T.; Do, Y., Synthesis and characterization of new luminescent materials containing various substituted 8-quinolinolate. *Synth. Met.* **2001,** *121* (1-3), 1667-1668, doi:10.1016/s0379-6779(00)00941-3.
2. Becke, A. D., Density-functional exchange-energy approximation with correct asymptotic behavior. *Phys Rev A Gen Phys* **1988,** *38* (6), 3098-3100, doi:10.1103/physreva.38.3098.
3. Lee, C.; Yang, W.; Parr, R. G., Development of the Colle-Salvetti correlation-energy formula into a functional of the electron density. *Phys. Rev. B Condens. Matter.* **1988,** *37* (2), 785-789, doi:10.1103/physrevb.37.785.
4. Woon, D. E.; Dunning, T. H., Gaussian basis sets for use in correlated molecular calculations. III. The atoms aluminum through argon. *J. Chem. Phys.* **1993,** *98* (2), 1358-1371, doi:10.1063/1.464303.
5. Grimme, S.; Antony, J.; Ehrlich, S.; Krieg, H., A consistent and accurate ab initio parametrization of density functional dispersion correction (DFT-D) for the 94 elements H-Pu. *J. Chem. Phys.* **2010,** *132* (15), 19, doi:10.1063/1.3382344.
6. Weigend, F.; Ahlrichs, R., Balanced basis sets of split valence, triple zeta valence and quadruple zeta valence quality for H to Rn: Design and assessment of accuracy. *Phys. Chem. Chem. Phys.* **2005,** *7* (18), 3297-305, doi:10.1039/b508541a.
7. Weigend, F., Accurate Coulomb-fitting basis sets for H to Rn. *Phys. Chem. Chem. Phys.* **2006,** *8* (9), 1057-65, doi:10.1039/b515623h.
8. Rolfes, J. D.; Neese, F.; Pantazis, D. A., All-electron scalar relativistic basis sets for the elements Rb-Xe. *J. Comput. Chem.* **2020,** *41* (20), 1842-1849, doi:10.1002/jcc.26355.
9. Pantazis, D. A.; Chen, X. Y.; Landis, C. R.; Neese, F., All-electron scalar relativistic basis sets for third-row transition metal atoms. *J. Chem. Theory Comput.* **2008,** *4* (6), 908-919, doi:10.1021/ct800047t.
10. Daniel Aravena, M. A., Alexander A. Auer, Ute Becker, Giovanni Bistoni, Dmytro Bykov, Vijay G. Chilkuri, Dipayan Datta, Achintya Kumar Dutta, Sebastian Ehlert, Dmitry Ganyushin, Miquel Garcia, Yang Guo, Andreas Hansen, Benjamin Helmich-Paris, Lee Huntington, R´obert Izs´ak, Marcus Kettner, Christian Kollmar, Simone Kossmann, Martin Krupi˘cka, Lucas Lang, Marvin Lechner, Dagmar Lenk, Dimitrios G. Liakos, Dimitrios Manganas, Dimitrios A. Pantazis, Anastasios Papadopoulos, Taras Petrenko, Peter Pinski, Philipp Pracht, Christoph Reimann, Marius Retegan,; Christoph Riplinger, T. R., Michael Roemelt, Masaaki Saitow, Barbara Sandh¨ofer, Igor Schapiro, Avijith Sen, Kantharuban Sivalingam, Bernardo de Souza, Georgi Stoychev, Willem Van den Heuvel, Boris Wezisla, Mih´aly K´allay, Stefan Grimme, Edward Valeev, Garnet Chan, Jiri Pittner, Martin Brehm, Lars Goerigk,

Vilhj´almur Asgeirsson, Liviu Ungur., ORCA 5.0.1.
11. Neese, F., Software update: the ORCA program system, version 4.0. *Wiley Interdiscip. Rev.-Comput. Mol. Sci.* **2018,** *8* (1), 6, doi:10.1002/wcms.1327.
12. Wheeler, S. E.; Houk, K. N., Integration Grid Errors for Meta-GGA-Predicted Reaction Energies: Origin of Grid Errors for the M06 Suite of Functionals. *J. Chem. Theory Comput.* **2010,** *6* (2), 395-404, doi:10.1021/ct900639j.
13. Lu, T.; Chen, F., Multiwfn: A multifunctional wavefunction analyzer. *J. Comput. Chem.* **2012,** *33* (5), 580-592, doi:10.1002/jcc.22885.
14. Lu, T.; Chen, F., Quantitative analysis of molecular surface based on improved Marching Tetrahedra algorithm. *J. Mol. Graph. Model.* **2012,** *38*, 314-323, doi:10.1016/j.jmgm.2012.07.004.
15. Xiao, M.; Lu, T., Generalized Charge Decomposition Analysis (GCDA) Method. *J. Adv. Phys. Chem.* **2015,** *04* (04), 111-124, doi:10.12677/japc.2015.44013.
16. Lu, T.; Chen, F.-W., Comparison of Computational Methods for Atomic Charges. *Acta Physico-Chimica Sinica* **2012,** *28* (1), 1-18, doi:10.3866/pku.Whxb2012281.
17. Lu, T.; Chen, F., ATOMIC DIPOLE MOMENT CORRECTED HIRSHFELD POPULATION METHOD. *J. Theor. Comput. Chem.* **2012,** *11* (1), 163-183, doi:10.1142/s0219633612500113.
18. Bannwarth, C.; Caldeweyher, E.; Ehlert, S.; Hansen, A.; Pracht, P.; Seibert, J.; Spicher, S.; Grimme, S., Extendedtight-bindingquantum chemistry methods. *Wiley Interdiscip. Rev.-Comput. Mol. Sci.* **2021,** *11* (2), 49, doi:10.1002/wcms.1493.
19. Grimme, S.; Bannwarth, C.; Shushkov, P., A Robust and Accurate Tight-Binding Quantum Chemical Method for Structures, Vibrational Frequencies, and Noncovalent Interactions of Large Molecular Systems Parametrized for All spd-Block Elements (Z=1-86). *J. Chem. Theory Comput.* **2017,** *13* (5), 1989-2009, doi:10.1021/acs.jctc.7b00118.
20. Bannwarth, C.; Ehlert, S.; Grimme, S., GFN2-xTB-An Accurate and Broadly Parametrized Self-Consistent Tight-Binding Quantum Chemical Method with Multipole Electrostatics and Density-Dependent Dispersion Contributions. *J. Chem. Theory Comput.* **2019,** *15* (3), 1652-1671, doi:10.1021/acs.jctc.8b01176.
21. Spicher, S.; Grimme, S., Robust Atomistic Modeling of Materials, Organometallic, and Biochemical Systems. *Angew. Chem.-Int. Edit.* **2020,** *59* (36), 15665-15673, doi:10.1002/anie.202004239.
22. Pracht, P.; Bohle, F.; Grimme, S., Automated exploration of the low-energy chemical space with fast quantum chemical methods. *Phys. Chem. Chem. Phys.* **2020,** *22* (14), 7169-7192, doi:10.1039/c9cp06869d.
23. Bi, H.; Chen, D.; Li, D.; Yuan, Y.; Xia, D.; Zhang, Z.; Zhang, H.; Wang, Y., A green emissive amorphous fac-Alq_3 solid generated by grinding crystalline blue fac-Alq_3 powder. *Chem. Commun.* **2011,** *47* (14), 4135-7, doi:10.1039/c1cc00060h.
24. Baldo, M. A.; Lamansky, S.; Burrows, P. E.; Thompson, M. E.; Forrest, S. R., Very high-efficiency green organic light-emitting devices based on electrophosphorescence. *Appl. Phys. Lett.* **1999,** *75* (1), 4-6, doi:10.1063/1.124258.
25. Peng, Q.; Niu, Y.; Shi, Q.; Gao, X.; Shuai, Z., Correlation Function Formalism for Triplet Excited State Decay: Combined Spin-Orbit and Nonadiabatic Couplings. *J. Chem. Theory Comput.* **2013,** *9* (2), 1132-1143, doi:10.1021/ct300798t.